

THREE · BOYS · ON
AN · ELECTRICAL
BOAT ~~~~~



· JOHN · TROWBRIDGE

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By John Crowbridge

THE STORY OF A WIRELESS TELEGRAPH BOY.

With frontispiece.

THREE BOYS ON AN ELECTRICAL BOAT.

HOUGHTON MIFFLIN COMPANY

BOSTON AND NEW YORK

THREE BOYS ON AN ELECTRICAL BOAT

BY

JOHN TROWBRIDGE

AUTHOR OF "THE ELECTRICAL BOY"



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THREE BOYS ON AN ELECTRICAL BOAT

CHAPTER I

DANGER IMPENDING

EDWARD KINGSLEY was awakened on a cold winter night by the sound of voices in the room adjoining the small chamber in which he and his cousin Hal slept. The stranger who had suddenly appeared in the village during the afternoon, and had been closeted with old Merkins, in whose house Edward and Hal lived, had evidently returned, and Merkins and he were again transacting some business. Edward put his hand on Hal's shoulder to ascertain if he were awake ; but the sturdy boy was fast asleep. Edward snuggled into the thin blankets and nearer his cousin, for the night was bitterly cold. Then he heard his name spoken. "I will take the younger lad, — Edward," said the stranger, "and you must keep the older boy." The voices of the men

became inaudible. Presently Edward heard the stranger say that he would come for the younger boy on the following week. The steamers sailed for Brazil on Mondays.

Edward sat up in bed and shivered with the cold and excitement. A team was driven by the house, and the wheels creaked on the snow. The boy's first impulse was to awaken his cousin and tell him what he had heard, but he was fearful that Hal, in his impulsiveness, would spring out of bed to confront Merkins, and to demand an explanation of the reason for the proposed separation before the boys had agreed upon a plan for defense.

Edward reflected that there was plenty of time before Monday of the next week, and he resolved to think out the situation by himself. With eyes, therefore, widely open and gazing through the frost covered panes of glass in the window at the foot of their cot, he endeavored to conjecture what the future held in store for himself and his cousin. It was evident that there was some plan on foot to separate them. When he thought of the vast distance to Brazil, he convulsively threw his arms around Hal. No one should ever divide him from

his cousin. The mystery that had always enveloped their past history was about to be increased by another mystery. The boys had been left with old Merkins when they were hardly more than infants, and they had grown up under his rough care, entirely ignorant of the names of their parents. Edward's teeth chattered as he thought of the coming peril. "I am mortally terrified," he said to himself, "there is no doubt about that; but I shall conquer myself and shall be ready in the morning to present a plan to Hal for our action. It's only necessary to keep thinking. When I have thought about fearful situations long enough, I become able to meet them. Hal's courage is always pumped up, and he never shivers as I do. I should be ashamed to have him see me now. He would say I am nervous, I know; but the symptoms of nervousness and cowardice are amazingly alike."

On the following day, when the two boys were taking their lunch in Merkins' school-room, Edward seized the opportunity, while their master had gone out, to tell Hal what he had heard during the night. "Separate us! I think not," exclaimed Hal with vehe-

mence. "Ned, you and I must leave this place. I for one am tired of going to school, and I long to be out in the world with men."

"I have thought out a plan for leaving Merkins and getting into the wide world with a chance of obtaining a living," replied Edward. "Richard Fell told me that on his recent visit he went aboard a United States frigate which is anchored in Portland harbor, and saw many wonderful electrical engines. He wished that he might ship on her and learn more about them; and he could have shipped, — for an officer told him that boys were needed, — if his parents had not insisted upon his returning to old Merkins' school."

"We will leave school to-morrow and ship aboard that vessel," exclaimed Hal.

"It is a long way to Portland," replied Edward, "and we have no money. If, however, we could reach the camp of Smith the trapper, I am sure he would forward us across the country to Portland. Smith's camp is twenty miles from here on the easterly shore of the lake. We must cross the lake; for the woods around the shore are almost impenetrable by reason of the snow."

“We will get Richard Fell,” said Hal, “to take us on his ice boat to Smith’s camp. With the wind sweeping down the lake, he would make little of the twenty miles.”

“Yes,” said Edward calmly, for he had thought out the same plan; “and Smith takes his game to Portland day after to-morrow. He could pilot us there. But will Richard lend us his boat? Old Merkins might hold him responsible for our flight. Moreover, his boat is fitted with an electrical attachment which no one but Fell knows how to manage. It is evident that we must see Richard.”

That evening the two boys went to Fell’s room. Their schoolmate was known among Merkins’ scholars as the electrical crank. He was always experimenting with electricity, and his latest fad was an electrical ice boat. The boys found him in his room busily engaged upon what he called a commutator brush, a part of the electrical machine which he had placed upon his ice boat.

Richard Fell was a tall, lank specimen with weak eyes, which he generally protected from the glare of a lamp by means of a green shade. He knew that he cut a ridiculous figure with

his visor and his thin limbs ; he dubbed himself the Don Quixote of electricity, — a title, he remarked, more dignified than that of electrical crank. He stopped the whirr of his lathe on the entrance of the boys, and, sitting on his stool, with one leg intertwined with the other, listened to the proposition of the cousins that he should lend his boat. When they had fully developed their plan of joining the frigate, he slowly lifted his hand, spread his long fingers, and bringing them down on his knee, said in a hoarse whisper : “ Boys, I ’m with you. We ’ll go together. Since I ’ve seen that wonderful ship, I ’ve dreamt of her electrical engines every night. She ’s acted on me like a powerful magnet. I ’m with you.” The cousins were overjoyed, and during the short time in which old Merkins allowed the boys to visit each other in their rooms, they laid the plans for the escape. Richard explained how his electrical ice boat could outstrip any other boat, for if the wind died out or changed in direction, his electrical motor could still urge the boat onward. It was agreed that the boys should make a start on the afternoon of the following day ; it was clear cold weather, and

a snow-storm might come on and cover the ice with snow. That night Hal and Edward put their few effects together in the smallest compass possible. They looked around their little room, and thought that they were about to leave it forever. On the wall was the skin of a fox that Hal had shot, and lacrosse sticks and base-ball bats were huddled together in a corner near the old fireplace. The boys set out to take these cherished objects with them, but speedily found that the weight would be too great. Men in flight should not burden themselves overmuch. The difficulty of deciding what to leave behind seemed almost unsurmountable.

Hal looked at his skees, — long skatelike runners for moving rapidly over the surface of snow, — and with a sigh concluded that he could not take them. He took down from the wall the horns of the buck he shot at the head of the lake. These were his most precious possessions ; but they could not be compressed into a small bundle. On the floor was the skin of a bear which Edward and he had trapped. This, too, made a large bundle. Edward tried to compress Henry's bundle to its utmost ; but

the trousers and coats seemed to swell up indignantly, and refuse to lie in a small space.

“I think we had better empty the pockets first, Hal,” he said. Thereupon they took out of the coat pockets three apples and a baseball, and out of the trousers pockets two fish lines wound upon sticks, together with a large hunting knife and a flask of powder.

Edward, too, had his difficulties of packing. There was his box of butterflies, each insect carefully labeled; and while he was gazing at what represented so much time and devotion, his black cat appeared at the window and cried to be admitted. The boy let her in and folded her to his breast, and hid his eyes in her fur so that Hal could not see the tears. She must be left. This was the most dreadful thought of all. Who would feed her every night? Who would be there to let her in from the cold, and give her a warm bed?

“I must leave my hockey,” said Hal.

Edward put down the cat and rummaged in a closet for his snowshoes.

“Yes,” said Hal, looking up as Edward emerged from the closet with the shoes. “We must certainly take our snowshoes. It may

snow before we reach Smith's. Certainly we shall need the shoes, when we accompany Smith; for it is a long tramp to Portland."

The boys at length got their bundles into a compass which did not seem excessive. Then they sat down on the hearth before the flickering fire, and weaved many a fancy as the birch bark on the logs rolled together, caught fire, and filled the room with its rich wood odor.

CHAPTER II

THE ESCAPE

MERKINS had established what he termed a sanitarium for delicate boys, in a pine forest not far from the Canadian frontier in the north of Maine. There were those who said that the boy's sanitarium and school was only a name for a smuggling station, where costly furs could be received from Canada and distributed in the States. However that may be, Merkins' school came in time to have a small number of boys, principally from Quebec and Montreal. The boys did not seem to be particularly delicate. Indeed, the farmers in the clearing in which the school was situated came to regard a Merkins boy as the epitome of vigor and mischief; and they maintained that the parents sent off unruly boys to be safe in a wilderness, far from the excitement of town life. Thus both Merkins and his scholars did not seem to be real, or what they

pretended to be. The school duties were certainly light enough for the most delicate boy, and Merkins encouraged out-of-door sports, — trapping, fishing, and canoeing, as being suitable for building up weak constitutions, and, let it be said, giving himself a large amount of leisure. He went often to Quebec to consult, he said, with the parents of the boys, and he returned mysteriously at the strangest hours. Perhaps he chose to keep the boys in ignorance of the times of his coming in order that they might not run riot, and might expect him to look in upon them at any moment. It never occurred to the boys to turn spy upon Merkins. They were content to escape being spied by him.

Henry and Edward could indistinctly remember a journey from Quebec which they took with Merkins. The cold ride in a sleigh in the depth of winter remained vividly impressed upon their minds, and the arrivals at stopping places, where warm rooms and hot food were obtained, made also a contrast which the memory held fast. What preceded this ride was very indistinct in their minds. Had they been on an ocean steamer, or had they

imagined an ocean voyage? Before they had come into Merkins' hands there were experiences, but the memories of them were very dim, and their knowledge of the great world was gained mainly from books, and from conversation with the boys who made up the school.

"I wonder who we are," said Edward meditatively, leaning his cheek against Hal's knee, and why this stranger comes to separate us. We both dimly remember, Hal, a large castle and a beautiful garden in which we played once. I often wonder whether one of us dreamt all this and told it to the other, and then we both came to believe in the dream. It is said that a man can after a while believe in his own lies if he tells them often enough."

"I remember," replied Hal, "the castle and a beautiful lady, who put your hand in mine and said I was a sturdy little fellow, and that you were delicate and that I must watch over you."

"You have always done that, Hal," said Edward, stroking his cousin's hand.

"Your good sense and careful thinking has kept me out of many a scrape, Ned," replied

Hal. "I believe your head has been of more avail than my muscle." The two boys tried to recall the dim past; and found that there was nothing clear but the vision of the castle garden. A stranger had brought them to old Merkins' school, and a stranger was about to take one of them away.

The afternoon chosen for the flight was cold and gray. A heavy bank of clouds lay in the west. It was called a snow bank by the farmers, and the wise ones made careful preparations for the coming storm. Wood was carried into the sheds, the cattle were more carefully housed, and maids were sent on errands to the neighboring village: for the snowstorms were so violent that it might be a week before the roads would be reopened through the drifts.

The boys concealed their bundles beneath their overcoats, and took their last look of the little room where they had spent so many hours. It was the only home they had known, and every nook of it was of interest. In after years how often their thoughts ran back to that little room, which was the scene of the returns from the chase, the meeting of school friends, the place where sweet slumber ended

the day, however it might have been passed. As they stood taking their last look, Edward's cat appeared at the window and uttered its urgent appeal to be taken in.

"I must take Beelzebub with me, Hal!" exclaimed Edward, opening the window and stroking the cat, which had sprung upon his shoulder. Hal looked doubtfully at the face of his cousin; but its troubled expression overcame his first impulse to denounce the absurdity of taking a cat with one on a flight.

"If you really wish to take her, Ned, I would do so. Perhaps she can be stowed away in your coat pocket. There are rats on board ship, and perhaps a cat might be welcomed." Edward held the cat firmly to his breast, and the boys, issuing from the house by a back door, hurried through the lane which led from the house of Merkins to the saw mill. Once at the corner, where the barberry bushes showed their frozen berries above a snowdrift, Edward paused in an irresolute manner.

"You are not changing your mind," exclaimed Henry, in considerable trepidation, for he had great respect for the judgment of his cousin.

“I remember,” replied Edward, “that I set two box traps yesterday for rabbits in the pine barren. If the poor animals should get into the traps, they would perish by cold and starvation.”

The two boys paused in deep thought.

“We will leave a note in the saw mill for old John,” said Edward. “When he comes to tend the mill to-night, he will get it and will go to the traps.” Their minds thus being relieved, they trudged on past the barberry bushes, past the gray hazel copse, in which there was not a rustle; it was protected from the rising wind.

CHAPTER III

THE ELECTRICAL ICE BOAT

RICHARD kept his ice boat in a saw mill on the edge of the lake. This mill was run by water power, and contained a dynamo which served to light the house of the mill owner by electricity. Here Richard was accustomed to carry on his experiments with electricity, for the strong currents furnished by the dynamo machine gave him great experimental facilities. He had constructed an electrical motor for his ice boat, and a storage battery, which he was allowed to charge by means of the current from the dynamo.

On reaching the mill, the boys found Richard already at work. The ice boat was on the ice, and all was ready for the flight. Having pinned their note to John in a conspicuous place, the boys stowed themselves on the frame of the ice boat, and Richard set his machinery in motion. The saw mill was on a

winding creek which ran into the great lake, and it was necessary to reach the broad sheet of ice before the sail of the boat was set. Instead of pushing the boat over the surface of the creek, Richard used his electrical motor. Imagine the two wheels and the axle of a small carriage to be mounted on the frame of the ice boat. Then imagine the tire of the wheels to be taken off, leaving the pointed spokes of the wheels. The little electrical motor turned the axle very fast, and the sharp points of the spokes spurned the ice away and urged the boat over its surface. Thus the ice boat was something like a tricycle and a sled.

“My motor enables me to manœuvre for position in order to take advantage of the wind,” said Richard, half to himself and half to the boys, as he oiled the bearings of his apparatus and cast glances up and down the lake.

A sudden exclamation from Edward startled Hal. The latter looked in the direction which his cousin indicated, and saw old Merkins and the stranger striding down the lane which led to the creek.

Old Merkins halloed to the boys to return.

“The stranger has come earlier than he

expected," whispered Edward to Henry; "he is probably anxious to reach the railway station before a heavy snow should set in and make the fifty mile ride impossible."

The boys paid no attention to the signals of Merkins, and Richard turned on more current from his storage batteries in order that they might reach the broad surface of the lake quickly.

Merkins and his companion stood for a moment looking at the fugitives, and then the boys saw the schoolmaster stride to the saw mill.

"He's gone to get his ice boat in order to follow us," said Richard, looking over his shoulder.

The master understood fully the management of an ice boat; indeed, it was he who had taught Richard how to sail one. His boat had a particularly large sail, and ought to outstrip Richard's boat.

"My electrical attachment gives me an advantage, however," said Richard, as the boys anxiously considered the situation. Their boat was now approaching the point where the creek widened into the lake, and the rough

snow ice of the narrow creek, with its ridges and its rough places, would soon give place to the smooth black ice which covered the lake from shore to shore. Such ice had rarely been seen; for the snow and the melting rains, alternating with each other, usually made a humpy surface which was smooth only in spots. The ice boat would fly like a bird when it was fairly on the smooth ice. Merkins, too, knew this, and the boys could see his strong muscular figure urging his boat along the devious creek, followed by the stranger, who tumbled exactly like a clown in a circus, as his feet slipped this way and that. It was evidently of the utmost importance to Merkins and the stranger that the boys should be stopped.

Merkins halloed and made frantic gestures, but to no purpose.

“He must have read our note to John about the rabbit traps, and he has visited our room and perceived that we have taken our clothes and valuables,” said Edward. “I am sure that the stranger has come to separate me from you, Hal.”

His cousin put his arm around Edward's

neck, and then hastily aided Richard to hoist the sail, for the boat had glided out upon the lake. While they were setting the sail the steel picks of the wheels whirred and the ice boat traveled swiftly. It was just as if a boy, seated on a sled, should urge himself along by jabbing the ice with two sharpened picks held in the hands. When the sail was set and it caught the wind, Richard stopped the electrical motor and lifted the spokes from the ice.

“If the wind fails us, we can make use of the electrical motor,” he remarked.

The boat was gliding at a rapid rate, when suddenly the cat, which had been calmly sleeping in the pocket of Edward’s overcoat, leaped overboard and slid over the ice; its tail was increased to double the usual size, and its claws made a scratching noise that was heard above the ring of the runners of the boat.

“The cat’s overboard,” shouted Hal into the ears of Richard, who, with cap crowded down and coat collar up, was trimming the sheet. Richard cast a glance over his shoulder and saw the cat whirling this way and that, vainly endeavoring to make headway against the gale.

“We can’t leave her to freeze,” he ejaculated, and proceeded to tack. This operation was seen by Merkins, and apparently thinking that the boys were returning, he halloed imperatively. The sail filled on another tack, and the boat bore down on the cat. The animal, however, had now got on its feet and fled perversely in a direction which compelled another tack. This latter tack promised to take the boat directly toward Merkins. Fortunately, the cat presently scrambled in another direction.

“We will try electricity now,” remarked Richard, when he saw that Merkins was fast gaining; and accordingly he lowered what he called his “pickers,” and at the same time took down his sail. The boat was thus independent of the action of the wind. The cat, however, hearing the strange whizz of what it undoubtedly took to be a monster, redoubled its speed. It lost its footing in its frantic efforts and slid along, a helpless mass of fur. As the boat swept up, Edward reached out and caught the cat. Then Richard hurriedly pulled up his sail, elevated his pickers, and the ice boat was off on its best tack, feeling all the force of the wind. Merkins’ boat was dangerously near.

and the schoolmaster again alternately threatened and cajoled. He in turn was now delayed, for the stranger fell off the narrow seat of the ice boat, and slid over the ice in a far more helpless condition than the cat was in. This accident compelled Merkins to tack, and by this time the boys were on the best reach of ice. Now they were off, gliding like a swift bird over the water; for the surface of the black ice seemed like that of placid water, it reflected perfectly the great hemlocks on the knoll at the left.

“This superb ice is too good to last long,” said Richard, casting an anxious glance at the dull gray sky. “When the sun goes down, I am afraid it will begin to snow.” As he spoke a few fine flakes of snow rested on the boy’s caps, and a thin wreath of snow swept in serpentine paths over the black ice. “If this wind holds,” said Richard, “we shall fly down the lake with great speed, and we may get ahead of the storm. There! There! Merkins is getting out of the creek, and is about to set his sail. We have got to use all our wits now; for he knows how to sail an ice boat, and he is up to all sorts of sharp manœuvres.” The

boys, however, had a long start, and would soon reach a position to make a most advantageous tack.

On and on flew the boys' boat, gliding over dangerous streaks and by air holes. A sharp lookout must be kept, for there might be open water ahead. The eye would find it difficult in the approaching gloom to distinguish black ice from open water.

"A little coating of snow would really be of advantage," said Richard, as he carefully examined the tackle of the boat.

By this time the boys' boat had run behind a headland, and the pursuers were shut from view.

"If the snow had a crust, it would be just like Merkins to shoulder his ice boat and cut across that headland," remarked Hal.

"It would take a stronger man than he is, although he is a giant in strength, to wade through two feet of snow in those woods, carrying his ice boat," rejoined Edward. "It is true he would gain on us two miles. There isn't a path broken out through those woods, is there Richard?"

"I know of none," replied the latter. "The

lumbermen have not commenced operations yet." Looking far behind, no trace could be seen of the boat of Merkins. A delicate mist began to obscure the hills, and the flurries of snow became more frequent. The surface of the lake was covered with streamers, which the wind blew in beautiful curved lines over the ice. Here and there a floating stick, imbedded in the ice, caught the drifting snow and outlined itself with white. The swish of the snow spicules on the ice as they swept hither and thither filled the air, and above this rushing noise sounded the clear ring of the steel runners of the ice boat.

"There comes Merkins, I declare!" exclaimed Edward, pointing to the shore just behind and somewhat to the left. Richard quickly lowered the axle of his wheels, and set the motor in motion, for the wind was now broken by the promontory across which the pursuers had come.

"Our only hope is to get into the sweep of the wind before Merkins does," said Richard, "for he has a larger sail and a better boat."

"We are carrying a heavy weight," said Edward, looking at the storage battery.

“That’s the worst of it,” groaned Richard; “but the battery is strongly charged, and you see it carries us on at a rapid pace. We must not, however, draw upon it heavily: for the current of electricity that it now gives would soon be exhausted, and then we should be forced to throw the cell out of the boat, for we should be carrying just so much dead weight.”

Merkins and the stranger were slipping on the ice, which the light film of snow made extremely uncertain footing. The stranger was evidently a great drawback to Merkins, for he repeatedly lost his footing and tumbled in a heap; while his hat skimmed before the breeze. Finally Merkins apparently induced him to take his seat on the frame of the boat and did the pushing himself.

A strange feeling of terror came over Edward as he looked back at the grim bundled-up figure of the man who sought to exercise such an influence upon his destiny. This feeling of terror was mingled also with contempt for one who seemed to be so helpless in the knowledge of the country ways. The man must be some villainous foreigner.

“The strange chap is having a cold ride,” said Richard. “See how he snuggles his head down behind his coat collar. I really believe Merkins is rubbing the fellow’s hands to prevent their freezing.”

The boys’ boat was now feeling the clear sweep of the wind, and it rapidly increased its distance from Merkins’ boat. The snow fell more rapidly, and the shores of the lake began to be blotted out.

Fortunately, the wind did not allow the snow to accumulate on the ice; but swept it in ghost-like wraiths ahead of the flying boat. The gloom increased, and Merkins’ boat was lost to sight. The boys kept an anxious outlook for stretches of open water. It did not seem probable that there should be such open stretches, for it was said that lumbermen had driven teams down the lake only the day before. Still every particularly black stretch before the boys was carefully scrutinized and the ice boat was directed along the reaches where the snow wreaths could be seen to whirl over the ice. Once the boat ran into a deep ridge of snow which had accumulated on a strip of rougher ice and had defied the wind.

The boys speedily pushed the boat over the drift, and again they sped down the lake. In a short while they saw a great mass in front, and in the driving snow perceived the dark wood on the shore ; their boat dashed into the bank. Then they had to pull it out into the lake and around the shore to gain a clear reach. While they were engaged in pushing out their boat through the rifts of snow which had accumulated in the little harbor into which they had run, they heard Merkins' voice in the gloom ; it seemed to come from the harbor and behind them.

“The old wolf is close upon us,” said Hal, with a fierce light in his eyes.

Richard set his motor again in action, and the boys jumped from the slippery ice to the frame of the ice boat.

“You see what an advantage my motor is,” said Richard with pride. “We should slip around on this snow-covered ice worse than the mysterious stranger who is pursuing us if it were not for our whirling ice picks.”

“When we strike the heavy snow the weight of the battery makes it very difficult to push the boat on,” said Edward.

As he spoke, a strange echo from the wooded shores brought to their ears the conversation of Merkins and his companion. It was evident that the schoolmaster was close upon the boys. Merkins knew the shores of the lake well and he might yet head off the boys before they could reach Smith's Camp. Meanwhile, the storm increased in fury, and the wreaths of snow on the lake moved more sluggishly and rested longer in white rows which increased in thickness.

Whenever the flying boat struck one of these rows its speed was perceptibly lessened. Again the boys ran into a sheltered nook, and again they had to urge their boat over the snow. The motor seemed to have less power. Richard rearranged his battery connections, and began to look serious. The exultant gaze with which he regarded his invention began to give way to a tired look. "I am afraid," said he, "that the battery is giving out."

"What is to be done in that case?" asked Edward anxiously.

"We must throw it away and lighten the boat," replied Richard with a sad but determined air.

Then the boat came to a full stop ; it had struck a thick rift of snow. When the boys were urging the boat over it with the help of the electrical motor, the latter suddenly ceased to whirr. Richard tested the poles of his battery and could not get the slightest spark.

“ It is dead,” he muttered, and he hurriedly began to uncouple the cells and to throw them out upon the ice. The two boys helped him in his work of destruction, and then found that they could easily lift the ice boat over the drift. The darkness had now settled upon the lake, and the ice boat swept on, while the storm seemed to be wreathing icy and ghostly garlands around the sail. It did not seem as if the boys could be far from the foot of the lake. The only guide was the wind which swept the length of the lake.

Presently the snow began to accumulate to such an extent on the ice that the ice boat made but little progress. It was apparent to the boys that they must seek the shelter of the shore ; for the icy blast on the wide expanse of the lake was becoming unbearable. In the shelter of the deep hemlock woods they

would be protected from the wind. The gloom seemed to be denser in their sight, and supposing the darker space to be due to the wooded shore, they headed their boat for it. Their conjecture proved to be correct ; for the great pines and hemlocks appeared through the mist, and the sough of the storm could be heard in their branches. The snow deepened, and a few feet off the shore of the lake the ice boat ran into a great drift and stuck fast. The boys let down the sail and pulled the boat through the snow to the shelter of the trees so that it could not by any possibility attract the gaze of Merkins. Nothing, however, could be seen of the latter. Out on the lake there was the gray whirling tempest with no horizon line.

The forest in which the boys found themselves seemed to be impenetrable. At first they stood in the shelter of the trees and listened. This was a natural impulse ; for the eyes saw nothing but a gray waste and swaying branches of trees. The sense of sight availed but little. They had to depend upon the sense of hearing, and all that came to their ears was the solemn organ-like note of the pines as they received the whirling snow

after it had pattered for an instant amid the dry leaves which still clung to an ancient oak. Richard struggled for a short distance among the tree trunks, carefully examining them. In a moment he uttered a joyful cry.

“I know where we are, boys,” he exclaimed. “Here is a blaze on this tree,” pointing to the mark of an axe on the bark. “A path leads in a short distance from the lake to an old lumber camp.”

The boys agreed that they were in great luck, and they struggled through the deep snow, following the lead of Richard.

After a toilsome walk through the dark wood, with frequent stops to enable Richard to examine the blazes on the tree trunks, they found themselves before a wooden hut half buried in the snow. Richard kicked the snow away from the door. It yielded to his pressure and the boys entered a dark inclosure. Richard's lantern revealed a rude room, with shelves on the side for beds and an old stove with a crooked smoke pipe which gave exit to the smoke through the side of the room. The boys felt that they could make themselves comfortable for the night; a fire could be built

in the stove, and they would be protected from the snow. Before building a fire, Edward recommended that boards should be placed against the small windows in order that no light should direct Merkins to their retreat. Richard said that he thought the snowdrifts already covered the windows, but the precaution might be a wise one. Soon a fine blaze was made in the stove, and the interior of the hut was lighted by a ruddy glare. The room gave evidence of having been lately tenanted. Pairs of comparatively new rubber boots were hung from pegs in the logs, and some provisions were found in a stone pot in a corner.

In the centre of the rude flooring a little drift of snow had formed. Hal speedily stopped up the chink in the roof through which the snow had filtered. A further careful examination of their quarters revealed to the boys more provisions, and they set about preparing a supper, with that delight in adventure which belongs only to youth. Never was a meal more relished, for the fierce wind on the lake had sharpened their appetites. They ate the baked beans and the other canned articles which they found in the log

hut and thought that they were delicious. After supper they sat on the floor around the hot stove and endeavored to decide upon a plan of action for the next day. The cat snuggled closely to Edward and purred with content. Once the boys thought they heard a wild cry in the direction of the lake. They listened intently, but could distinguish nothing but the roar of the tempest.

As they sat about the blazing fire listening to the raging of the storm, they fell to discussing the life of a trapper and hunter. It seemed full of poetry and adventure. "Smith has told me," said Richard, "that he often walks twenty-five miles a day in visiting his traps, and frequently returns at night empty handed. Now if I were he I should have electrical traps, with wires leading into my cabin, and connect it with suitable bells or other signals. All I should have to do would be to watch the signals. If a bear got into my bear trap I should take my heaviest gun, otherwise I should not burden myself with it. In the same way I should set fish lines in the lake, and do my fishing by electricity. At present Smith sets his lines on little poles stuck in the ice near

the holes through which the fish lines run, and he is obliged to travel from one hole to the other to see if the little red rag which he ties to the line has run over the poles. It is cold work tending the fish lines and he might read the 'Count of Monte Cristo' beside a warm fire in his cabin, and let electricity do the work of watching."

"Your plan leaves out the poetry of hunting," said Edward, "the long tramp through the woods, with the delightful flush of excitement as one nears the trap, not knowing whether it is sprung or not."

"Smith does n't feel the poetry you describe," replied Richard contemptuously. "Hunting is business with him. I think it would be divested of its poetry for me after I had walked twenty-five miles every day for a week and found nothing in my traps."

Richard was so much pleased with the idea which had popped into his head that he proceeded to elaborate it for presentation to Smith when they should meet. The signal board would take up only a little room in a cabin: and he had just the device for making a proper signal. While he occupied himself

sketching out his plan on a piece of board, the cousins prepared beds for the night, around the fireplace; it would be necessary to keep up a fire as long as possible, in order that they might not suffer from the cold. It is true that they might have crawled into the lumbermen's beds, on which there were tattered bed quilts; but it seemed a serious matter to remodel these beds. Moreover, one did not like to usurp the beds which might be claimed later at night by the owners of the camp. Some of the old blankets, however, were spread upon the floor, and over pieces of wood which served as pillows. To the boys the situation was full of romance, and as they reclined with their feet toward the fire they discussed their race with Merkins down the lake, and wondered whether they lost on certain tacks. Merkins was a fine sailor, and made up his losses in a wonderful manner. He came very near overtaking them once. If it had not been for Richard's electrical motor he certainly would have done so. The boys wondered where Merkins was then. If he were still on the lake, he would be frozen stiff before morning. He was a man, however,

full of resources and learned in woodcraft. He was probably safely housed somewhere ere this. It was sincerely hoped that he had not arrived at Smith's. Protected on all sides by the great snowdrifts, they were indeed in a tumultuous privacy of storm. A great pine swayed hither and thither, and sifted the snow which accumulated on its broad branches over the log cabin. It seemed like a priest of fate impelled by some Sycorax to assist in burying the boys in a snowy grave. A mournful sigh came from its branches as they tossed hither and thither performing their icy task. It seemed like the voice of Ariel imprisoned in its cloven trunk.

The boys went to sleep, to dream of being transformed into white doves, which flew through the whirling snows pursued by ravens. While they slept in the heart of the forest, the storm continued to rage without. The broad-branched hemlocks over the hut gave up their burden of snow and deposited it on the roof of the hut, covering it during the night with a great drift. A gray squirrel and a rabbit which had been on a visit to their relations happened to return to the neighbor-

hood of the log hut, where they had their holes. The squirrel with great confidence leaped from the trunk of a hemlock to the spot on the ground where its hole should be, and disappeared head and tail in the soft snow. Extricating itself with difficulty, it sprang back to the hemlock trunk and, chattering wildly, fled up into the dark branches. The rabbit, which witnessed the act of its fellow forester, stood on its hind legs for a moment, its nostrils palpitating and its whiskers trembling, and then loped off into the wood to seek some other fastness.

CHAPTER IV

OUT OF THE WILDERNESS

IN the morning the boys awoke to find their hut embedded deep in the snow. Rays of light came into the rude chamber only through the stovepipe, and illumined the wood ashes on the hearth. The windows were blocked by the great drifts, and it was found impossible to open the door. Edward suggested that one of the windows should be forced up, and the snow pushed away until a passage was formed sufficiently large to enable one to crawl out. His suggestion was followed, and he, being the smallest, was assisted through the opening.

“Gracious!” the boys inside heard him exclaim, as he disappeared up to his neck in the drift outside. With a merry shout, however, he extricated himself, and shoveled the snow away from the door. The boys were soon liberated, and they stood on the threshold of their retreat, and looked upon a snow scene in

the forest. The storm had ceased, and not so much as a twig quivered in the stillness. The sun rays glistened on the lofty treetops; but the forest floor was of a pearly gray, not touched by sunlight. The lower branches of the hemlocks were deeply embedded in a snowy covering, which was not disturbed even by the footprints of the lightest bird.

The boys prepared their breakfast, and laid their plans for action. They must move on to Smith's camp as soon as possible, for the supply of food was small. If, however, Merkins and the stranger should happen to be at Smith's, both of the boys would be captured. It was resolved, therefore, that Hal should take the pair of snowshoes that the boys found in the logging camp, and should go out on a prospecting tour and ascertain their whereabouts. Hal accordingly laced on the snowshoes and started toward the lake, the broad surface of which he could discern through the tree trunks. It was not long before he reached its level surface, and traveling along it, he soon discovered that the retreat of the boys was not far from Smith's camp. Hal, on approaching the home of the

trapper, secreted himself in the woods in order to see if the latter was alone. He could see the smoke issuing from the log cabin, and approaching nearer, he hid behind a tree trunk, in the hopes that he might presently learn more of the inmates of the cabin. In a short while he saw Smith emerge, and proceed to dig a path to the lake. He was followed by a hound, which sniffed up the fresh morning air.

“If Merkins were about, he would be shoveling a path with Smith,” thought Henry Kingsley. Acting out his conviction, he delayed no longer, and advanced toward the hunter. The hound bayed loudly, and its master, following the direction indicated by the dog, perceived the boy.

“Well, you ’ve taken a short run on snowshoes this morning, before breakfast! How, in the name of all that is wonderful, did you manage to come twenty miles on this snow?”

Henry speedily explained that they had fled from school, and that his companions and himself hoped to accompany Smith to Portland. The old guide shook his head doubtfully. Henry was an especial favorite with him, how-

ever, and he told him to bring in the other boys, and after breakfast they would talk the matter over. Accordingly, Henry returned, and having announced that the coast was clear, Richard and Edward accompanied him to Smith's cabin. During the breakfast, the guide listened to Edward's account of the conversation between Merkins and his guest. When the boys described the flight down the lake and the pursuit by Merkins and the stranger, he held his outspread hand in the air; and when they told how Merkins cut in ahead, and how they slipped out of his grasp, he brought the hand down on Hal's shoulders with a resounding clap.

"Merkins is snowed up," said he, with a derisive laugh. "He shan't separate you boys if I can have a hand in it. There's the furs" — pointing to a bundle in the cabin — "which I'm intending to take to Portland, and you boys shall accompany me; but I discovered yesterday that my brother, who has hunted with me, is sick in his cabin about five miles from here. Somebody must remain with him."

Richard Fell quickly said, "I will stay with

your brother, while you take Hal and Edward to Portland. We know each other well, and I have promised him often that I would help him trap his game by electricity. We can talk about this subject while you are gone. I've changed my mind about shipping on the frigate. An electrical idea occurred to me last night, by means of which I may make my fortune, and I want to carry it out."

It must be said here that Richard Fell had had many fortune-killing ideas before. It was this singular receptivity of mind and imaginativeness that had won him the name of electrical crank. He said, "I'm like a codfish. I lay three million eggs, and only two or three come to anything. I believe I'm going to hatch something important this time, and I want to be on land and not on sea to do it."

Smith accepted the singular boy's offer with great readiness, for his supplies were low, and it was also important that he should get his furs to market. All was arranged, therefore. He and the two boys would start on the morrow, while Richard should take his place at the bedside of the sick hunter.

It was decided that the start should be made from the cabin of the latter, for Merkins and the stranger might arrive at Smith's cabin at any moment, and it was also thought best that the cat should be left with Richard, for Smith said that he had never heard that any cats except cats of nine tails were allowed on board a man-of-war. Edward looked at his cat and then at Smith with an innocent gaze of wonderment. The world surely contained objects of the greatest interest. A cat of nine tails would be impressive indeed. On account, therefore, of this stern regulation of the navy, it was decided that the cat must be left behind. The boys, however, felt assured that it would be cared for, and that it would not appear freezing at the window night after night and find no kind hand to let it in.

In the morning the boys set out with Smith for the seaport. Edward remarked to his cousin, "I am glad that a great idea has come to Richard; for I fear that he would try strange experiments on the extraordinary ship which we hope to cruise in. It seems very ungrateful to him to say so; for he helped us heart and soul in our flight, and even threw

overboard the battery upon which he had spent so many days of labor. Electricity has such a fascination to him that I should be afraid, however, that he might try an experiment on the lights of the ship, and perhaps put them all out, as he did once in the saw mill. He explained to us all perfectly why the lights went out; but I'm afraid the captain or admiral on the ship would n't care for the explanation." Henry agreed with Edward, although he would have liked to have had Richard accompany them; for the flight had thoroughly cemented a friendship between the three boys.

The first twenty miles of their journey they were forced to make on snowshoes. At the stopping-place where they spent the night, the boys heard, after they had retired, a cat crying at their door. "How much that sounds like Beelzebub," said Edward, sitting up in bed.

"It is impossible that it should be Beelzebub," replied Hal, "for we have traveled twenty miles to-day. It is probably the innkeeper's cat."

Edward got out of bed and opened the door. There in the darkness was Beelzebub. There was no doubt, for it sprang with the old habit

upon the neck of the boy, and began to purr loudly. The boys lighted their lamp, and asked the cat how it had found them. The animal was too busy in arching its back and in purring to give any information. Its little paws were wet and footsore, and altogether it had a bedraggled appearance. There was nothing to do but to allow it to accompany them, and they fell to sleep with the cat cuddled between them.

The journey was continued on the following day in a sleigh, for the highways of travel had been reached. Gradually the forests gave place to open fields, with now and then a farmhouse. Then they passed through larger hamlets and larger villages, and finally arrived at the seaport.

Smith took the boys to a little inn where he was accustomed to stop. There it was ascertained that the United States frigate was still in the harbor. After a night's rest the boys bade the hunter good-by, and told him that if the captain of the ship would not take them on board they proposed to find something to do in Portland; for nothing would induce them to return to Merkins' school. Smith promised to

keep their whereabouts a profound secret, and he wished them every success. He stood and watched their little sturdy figures with alert step go out into the world, and then turned and brushed his eyes with the back of his brawny hand.

“God bless ’em!” said he. “They little know what knocks they may get aboard that ’ere ship. I went off once that same way, full of hope, for the world was before me then. That boy Hal will make his way; he has lots of courage and good health. I’m somewhat afraid for the smaller chap; he seems a timid fellow.”

CHAPTER V

STEERING BY A JACKKNIFE

WHILE the boys were considering the best means of reaching the ship, they encountered a number of sailors swaggering through the streets, singing hoarsely. Their broad collars flapped widely from their brawny throats, and there was an air of breezy freedom in their neckties. They had the look of being able to flit over the wide world with the greatest ease, and of having been in Japan and in the South Seas, and then in the varied scenes of the Mediterranean. There was no narrow-cabined and confined schoolroom for them.

“I say, boys,” cried one of the sailors, “where’s Mother Gummidge’s beer-shop?”

Hal had noticed the name in a narrow street, and directed the man. The other men gathered around the boy while he spoke, and one put his hand with an air of good comradeship on Hal’s shoulder. Hal, having given his

information, asked in return how he and his cousin could reach the frigate,

“Ho, ho!” said one of the sailors. “These boys are as anxious to ship as we are to stay on land.”

“We can take them off in the boat with us,” said another sailor.

“If they were your boys, would you do it?” growled a third.

“Come, lads,” whispered the sailor who had asked the way to Mrs. Gummidge’s shop. “There’s a ship’s officer coming this way.” The men suddenly disappeared down an alley.

The two boys decided to stroll to the wharves and find the ship’s boat, in hopes that they might be taken to the frigate. Strolling in one direction they found no boat, and on retracing their steps they saw the frigate’s boat putting off from shore with an officer in the stern, and the men lustily rowing toward the great warship which lay in the offing. The two boys finally concluded to repair to the shop of an old boatman which they had passed.

They could obtain a boat from him, reach the ship, and ascertain whether they would be received, and then return the boat. Having

reached this decision, they walked to the shop. To their dismay, it was closed. They found, however, a boat unlocked, and decided to take it. While they were arranging the oars, a thin veil of fog began to obscure the frigate.

“We must make haste,” said Ned, “for the fog is coming in.”

Hal felt that they could pull to the ship before the fog settled down thick in the harbor. He had often been out in a fog on the lake, and felt no fear, having full confidence in his instinct for directions.

“I wish we had a compass,” said Ned somewhat anxiously, as they moved away from the wharves, and saw the fog drifting in, touching the tops of the old houses of the port, and blotting out here and there a chimney.

“We know,” replied Hal, “the direction of the wind. See! these ripples strike the bow of the boat as if they came from the frigate. We are pointed right, and all we have to do is to continue to row in the direction we are going.”

Ned did not reply, but thought out the situation to the best of his ability. The warship was such a large object that there was strong

probability of their striking her at the mouth of the harbor. It would be very unlikely that they should pass by her into the open sea, for if they should not see the frigate they would at least catch a glimpse of the shore on one side or the other. The fog grew thicker and thicker, and soon shut out both the frigate and the town. The boys kept on rowing, and noticed that the waves struck the boat always at the same angle. They heard the noise of the breakers on a ledge which had caught Ned's eye before the fog shut down, and kept it well to the left.

After rowing for some time, they rested on their oars, and listened again to the sound of the breakers. This time the roar seemed to come from the right and not from the left.

"It is the sound of the waves on the shore, near the mouth of the harbor," said Hal, listening anxiously. "We must now steer directly to the left, allowing the waves to strike the side of the boat instead of the bow."

Ned agreed that this would be the best plan, and they accordingly set out in the new direction, expecting to see the great frigate loom up at any moment.

The sun was now setting, and it was growing darker. The slight breeze which had disturbed the water died away, and there was nothing to indicate the direction of the boat; yet the boys still rowed on. When they stopped again, the roar of the waves seemed to come from the right-hand side; but it was very faint.

“We must keep near the noise of the breakers,” said Ned; “otherwise we may drift out to sea. I wish we had a compass.”

Then he thought over the configuration of the little bay. If they could only decide upon the direction of the north or south, they could avoid being carried out to sea; the land stretched out like two open arms, and the entrance to the harbor was directly to the east. Knowing the north and south line, they could reach the land either to the north or the south; for it was very unlikely that they would drift against the tide which was now setting in from the sea. Hal acknowledged that he was completely lost; he could not distinguish the sound of the breakers from the roar of the surf on the great beach on the seacoast to the south of the entrance to the harbor.

There is no condition so helpless as that of being lost in a fog ; all sense of direction is gone, and we are indignant with our best friend if he advises us to row in one direction, for what right has he to an opinion ? yet we follow his advice ; and then we begin to advise the friend and he follows our advice. After a while Hal saw Edward busily pulling out a thread from his handkerchief.

“ What are you about, Ned ? ” he asked with some trepidation, the boy’s look was so singular in its preoccupation.

“ I am going to make a compass,” replied Edward, tying one end of the thread to the middle of his jackknife. Thus saying, he lifted the jackknife by the thread and watched it revolve. Hal knew that the knife was strongly magnetic, for his own had become so from working near the dynamo in the saw mill. Edward made the knife revolve until he had got the twist out of the thread, and then the two boys watched the swings of the jackknife. Edward told Hal to mark the limits of the swings of the ends of the knife by pencil marks on the seat of the boat, and to draw a line between these marks. This line

was a north and south line. They speedily found that the boat's head was pointed either to the east or the west, and they accordingly turned its bow so that it might be in the line which went through the middle point of the swings of the jackknife.

The swings of the knife were somewhat irregular; and the torsion of the thread made different determinations of the north and south line vary considerably; but the boys felt confident that they had at last found a definite direction in the thick fog which enveloped them.

Hal rowed, while Edward held the suspended jackknife and gave the direction the boat should take. It grew darker and darker, and still no land appeared. They should have reached the northern or southern arm of the land which embraced the harbor long before this. Hal stopped rowing, and again they listened. They heard a distant roar on the left. It might be the breakers on the reef, or it might be the surf on the beach down the coast. Could they have actually passed through the opening of the harbor, notwithstanding their precautions? The thought

that they might now be on the open sea and drifting away from the land was not a pleasant one.

It was becoming too dark to see the jackknife. Edward carefully lighted a match from the store which he always carried with him, but the fresh sea air blew it out. He asked Hal to hold his cap over a match, and essayed again to light one. In doing this the jackknife got to swinging widely, and by the time it had settled down again to slower motions, the match went out. What could the boys do as the night grew blacker and blacker! The store of matches would soon be exhausted, and there would be nothing to guide them except the touch of the end of the knife, as it swung to and fro between the fingers of an outstretched hand. Edward felt the hand which held the thread to which the jackknife was suspended grow benumbed. In the darkness a coat was wrapped about his shoulders.

“Hal!” he exclaimed, “put on your coat. I have my own. You need yours.”

“I am rowing and can keep warm,” said Hal, and he was firm in making Edward retain the coat.

Hal sang sea songs, and told Edward that the fog would go out at the turn of the tide, and that then they could make out their situation.

Suddenly a great roaring noise was heard. It seemed to come from every point of the vast fog-filled space in which the boys were lost. Could it be the breakers on the ledge? Before an answer was given to this question, a strange weird light loomed in the fog. It was not a light like that of a lighthouse, for there were no rays, no point of greater brilliancy. The entire space of water and fog-filled sky was filled with a dim radiance like that which a swimmer in deep-sea depths of chalky water might behold if he should open his eyes and gaze upward at the sun. Presently the light grew more intense, and then out of the mist loomed an immense shape.

“It is the battle-ship!” cried Hal. “Pull for all you are worth, Ned; they will run us down.”

Bending to their oars, the boys endeavored to keep out of the way of the great prow which was slowly moving toward them, and apparently attracting their little boat to itself

by an irresistible force. There was no thought of being picked up by the ship and saved from the perils of the fog. A greater peril was imminent, that of being run down and engulfed in the sea. The rays of the great electric search light of the ship swept over the boys' heads as they pulled desperately. This was the cause of the strange radiance in the fog. Then loud orders were heard on the ship. The prow moved more slowly through the water; and as the boys' boat swept alongside of the immense ship, the heads of the sailors appeared over the railing of the deck. An officer gave directions from a bridge, and a rope thrown from the side of the vessel struck the boys' heads. They quickly seized it, and made it fast to a thwart of their boat.

"Let your boat drift astern," cried the officer, "until we lose our headway."

"Ay, ay, sir," shouted Hal, feeling a glow of enthusiasm at being able to answer an officer in true nautical style. "They will pull us in," he said to Ned, who stared with some fear at the swelling, mountain-like mass which was close beside him.

"I am not afraid," said Ned simply. "I

was merely thinking whether I could assist you in the water in case we should upset."

"Dear old fellow! I knew you were not afraid, although you looked as if you were. It isn't going to come to being in the water this time."

The fog was so dense that the boys drifted behind the vessel into the gloom, but the pull of the rope on the thwart told them that they were fast to the ship. Presently they felt their boat move forward, and found themselves again approaching it. Steps had been lowered amidship, and two sailors in naval uniform were at the ship's side, one on the lower step with a boat-hook. As the boat was drawn to the steps, the hook was quickly thrust into it, and the boys were ordered to tumble aboard as quickly as possible.

Just at the moment the boys were about to leave their boat, Beelzebub, frightened by the immense mass of the vessel and its dazzling lights, gave a leap overboard.

"Bear a hand there! Bear a hand there!" shouted an officer from the deck. "When are you going to get those boys aboard?"

Hal, seeing Edward's piteous look at the

cat, which was struggling in the water and disappearing in the darkness, suddenly leaped into the water and swam for the cat.

“Boy and cat overboard, sir,” shouted back a seaman to the impatient officer.

“Bring up a whale or any other stray fish you find, only be lively about it,” replied the officer.

By this time Hal had secured the cat, and was hanging to the stern of the boat. Two sailors had sprung down a rope ladder, and in a moment had secured the boys and the boat, and they were soon drawn up the side of the vessel.

“Be lively, men,” shouted the officer. “There’s a strong set to the tide here; we shall be on the breakers before we know it.”

As the boys scrambled over the ship’s side, they saw another boy’s face peering at them from the deck. There was something strange in its look, — so strange that it made a greater impression on both Hal and Ned than the group of sailors gathered at the ship’s side, and the glistening cannon at the ports of the ship.

“Well, young uns,” said an officer with a

gruff voice, as the boys stepped on deck, "were you out for a constitutional, or were you bound for Portugal?"

"We were lost in the fog," said Hal simply.

"That's news. Well, you're not born to be drowned, evidently."

"What's all this? What's all this?" said an elderly officer, apparently of high rank.

"Two boys picked up in the fog, sir," replied the officer who had charge of the rescue, touching his cap.

"Come on, boys," said he, "the admiral will want to hear your story and see what sort of fish we've caught." "Here, Brian," — addressing the boy who had peered so strangely at the cousins, — "take charge of this cat."

While the boys were on their way to the admiral, Brian amused himself by tormenting Beelzebub. He held the cat out at arm's length by its tail, and when one of the sailors protested at this action, the boy threw the cat upon the back of the sailor, and ran away with a malicious laugh.

As the boys followed the officer, Hal felt some one poke him in a dark passage which led behind a great cannon, and he recognized

Brian. The blow was a very unkind one, and Hal hesitated a moment with a desire to knock him down, but a gentle touch on his arm from Ned impelled him to move on without noticing his assailant.

The way to the admiral's quarters led through the sailors' mess-rooms, but the boys had only time to notice the hammocks swung up snugly to the rafters, and the collection of bright porringers which were being cleared away for the night. They passed marines, who were pacing to and fro on guard, with gleaming weapons.

CHAPTER VI

ON BOARD THE ELECTRICAL SHIP

THEY were conducted through room after room filled with strange engines, some of which seemed like wild beasts snarling and spitting fire. They passed great holes in which could be discerned men or demons opening the doors of lurid furnaces and throwing in fuel which flared up and outlined the half-naked bodies with fearful effect. Ned had read a translation of Dante's "Inferno," and felt that he was being piloted through infernal regions by a Virgil in the disguise of a naval officer. Presently the rumble and roar of the machinery grew more subdued, and only the rhythm of the slow motion of the screw of the vessel was heard, as the battle-ship slowly moved onward in the gloom of the foggy night. The boys were now passing through the officers' quarters. They caught a glimpse of luxurious state-rooms, and were soon face to face with two elderly

officers in a dining-room fitted with beautiful hangings and provided with soft, leather-covered couches. The contrast to the tumultuous quarters in which were located the fearful engines of war was very marked. This seemed the abode of peace.

"Two boys picked up, admiral," said the officer, saluting the elder of the two occupants of the saloon.

"How did you happen to be out in this fog?" asked the admiral gruffly.

"We were trying to find your ship," replied Hal, standing very erect and looking the admiral directly in the eyes.

"And what did you want to find my ship for?"

"We were tired of going to school, and wanted to be out in the world."

"Oh, ho!" said the admiral; and the other old gentleman, who, it seemed, was the rear admiral, echoed the exclamation, "Oh, ho!"

The admiral then plied the boys with questions about their parents and their schooling, all of which Hal answered in a straightforward manner, concealing nothing.

"You don't expect ever to escape going to

school in this life, do you?" asked the admiral. "I have n't escaped it; I go to school now, every day."

"Not to Mr. Sampson Merkins," replied Hal simply.

"No, but to Uncle Sam," replied the admiral, with a stentorian laugh, which the officer who had conducted the boys echoed loudly, much to the admiral's gratification.

"Send for old George!" presently said the admiral.

In a moment the officer returned with a curious-looking individual. He was evidently not an officer of the ship, for he wore no uniform. His coat was somewhat tattered, and there were great red stains on its front. His hands, too, were covered with grime, and there were smouches on his face where it was not covered by a gray beard.

"Here are two more pupils for you, Great-things," said the admiral, with a laugh. "They were so anxious to go to school that they put out in the fog in a cockle-shell, and your search light revealed them. Wisdom is justified of her children, hey?"

"Another schoolmaster, by Jove!" ex-

claimed Hal to himself, as he gazed at the man.

Greatthings looked at the two boys with a piercing gaze.

"They are of just the right size," he observed. Ned thought of the remark of the giant in "Jack the Giant-Killer." Was it possible that they were to be offered up in some mysterious manner to this strange being?

"Well, boys," said the admiral, "Mr. Greatthings is evidently ready to receive you as pupils. He will convince you that no one can evade going to school in this world. The events of life are only a change of school. That is a big truth, and the sooner you learn it the better. You look like good, honest, straightforward fellows. I have no hesitation in telling you I like your looks. You are all wrong, however, on the subject of escaping school in this life. Boys, it can't be done. I hope to hear a good account of you both from Mr. Greatthings." The manner of the admiral showed plainly that the interview was at an end, and the boys followed Mr. Greatthings. Their way again was through mysterious rooms filled with great apparatus which moved as if

instinct with strange life. Electric lights were everywhere, and there was every now and then the clangor of electric bells.

“What are those red stains on the old man’s coat?” asked Ned in a nervous whisper, as the two boys crept after Greatthings through a narrow corridor.

“Perhaps he is the ship’s surgeon,” replied Hal, “and we are to be his servants.”

“In that case I shan’t be of much use,” replied Ned, in a desponding tone. “You know I always faint at the sight of blood.”

“I know it,” whispered Hal. “I wish you did n’t, for it gives a wrong impression of you, Ned.”

“I wish I did n’t,” replied Ned. “But I do, and there’s no reasoning about it.”

Greatthings presently opened the door of a room leading from a devious shipway, and the boys found themselves in what seemed like a doctor’s room, with its rows of bottles, its electrical machines, and cases of apparatus.

There they found Brian cleaning some batteries.

“This is Brian,” said the old man, turning to the two boys. “We shall all work together,

and the sooner we begin, the better. Your first lesson will be on electrical batteries. Brian here will show you the different sorts, how to connect them up, and that sort of thing. Here is a little pamphlet which describes them and gives an introduction to the subject of electricity. I want you both to read the first chapter to-night, and to-morrow at nine you will come to this room and recite to me on it. Don't learn anything by heart, — that is no way to learn; get the sense of the chapter and think of what questions I may ask, — that is the way to get at the bottom of a thing. We shall go fast, I tell you, for there's lots in science, and life is short." Thus saying, the old man took the boys out of the laboratory and showed them their quarters for the night, telling them to return to Brian for practical information in regard to batteries which were to form the subject of their first lesson.

"Gracious," remarked Hal, when the boys were alone in the little nook over the screw which the old man assigned to them, "we have n't escaped going to school, after all."

Ned looked at the little book which the old man had given them, and his eye caught the

explanation of a point which had always mystified him in the class in natural philosophy. The strange surroundings, however, in which he found himself diverted his attention for the moment from the book. The small quarters assigned to the boys were in a sort of waste space, crossed by great beams, hardly high enough for the boys to stand upright in. They reclined in their bunks while they gazed around. Underneath them, they could hear the rumbling of the screw and the rattling of the steering gear. Presently an officer of the ship looked in upon them, and told them he would see that they had a change of clothes.

“You ’ve shipped, I see, without bag or baggage. You must lay in a store soon, for if it should come on to blow you ’d be in a pretty condition. It ’s a good plan to get everything ship-shape as soon as possible. Hang up your things where you ’re going to keep ’em.”

When the officer disappeared, Brian came to the boys’ quarters with a swaggering air. “Come,” said he, “how long are you going to keep me waiting?”

“We shall come directly,” said Hal. “We are getting acquainted with our quarters.”

“What were you fellows doing out in the fog?” asked Brian, sitting on one end of a bunk and staring insolently.

“We were lost,” replied Ned.

“It’s a pity you didn’t succeed in avoiding this vessel,” remarked Brian. “You’d have had a happier lot if you had set out for Portugal in your small boat. I’m sick of this vessel.”

“It seems a fine ship,” said Ned, with an enthusiastic gleam in his gentle eyes. “Will you kindly tell me what you have done with my cat? I want to thank you for taking charge of it.”

“Oh, your cat is all right,” replied Brian nonchalantly; “at least, as right as we are. You don’t know old Greatthings,” he continued, slowly wagging his head. “Do you know what he intends to make out of you?” lowering his voice to an ominous whisper,—“a torpedo waggler, a sort of fish with a dynamite head.”

“If you think you can frighten that boy,” said Hal indignantly, “you are greatly mistaken.”

“Who’s said anything about frightening?”

“I have.”

“Oh, you are the coward.”

Hardly had the words left Brian's lips before he found himself flat on the floor with Hal standing over him.

“I declare, the monkeys are quarreling already,” said an officer, who appeared, followed by a sailor with a bag of clothes.

“That fellow struck me,” said Brian, struggling to his feet.

“Well, I've wanted to do it myself several times,” said the officer. “I suppose you undertook to bully these castaways. You go to your shop, and we'll investigate later.”

Hal said nothing about the occurrence; he thanked the officer for the bundle of clothes, and received general directions in regard to the ship's hours and the mess.

When the boys went to Greatthings' laboratory, they found Brian in a very amiable mood, which made them extremely cautious. While he showed simple experiments with batteries, how to connect for producing a spark in what he called a shocker, and how to couple them for depositing copper from a blue solution which was in a glass vessel, they were on their guard against any trick.

“Is the old gentleman who gave us the book the ship’s surgeon?” asked Ned after a while, who still regarded the batteries and appurtenances in the room as the furnishing of a doctor’s room.

“The ship’s surgeon?” echoed Brian.

“Yes, the ship’s doctor.”

“What a question! Ho, ho! Ha, ha! What in the world makes you think old Great-things is the ship’s doctor?”

“I saw some great stains of blood on his clothes,” said Ned.

Brian rolled over on a seat in a fit of uncontrollable laughter, which was uncomplimentary, and made a flush rise to Ned’s face.

“Those are sulphuric acid stains,” shouted Brian. “Oh, that is rich!”

“Come! come!” said Hal, with a hot flush mounting to his brow. “It was a very natural mistake; funny, no doubt, but a gentleman would not have done more than smile.”

Brian looked at Hal, but said nothing. It was a look which Ned remembered long afterward.

CHAPTER VII

THE SHIP'S OFFICERS

AFTER the boys had left the officers' saloon, the admiral and the rear admiral sat for some time in silence.

"Old Greatthings is in luck," at length remarked the rear admiral. "He's made a good haul in those young fish. That older boy is game. I'll venture to say he'll navigate a torpedo right under the enemy's bow. The more I look into the old man's invention of a navigable submarine torpedo boat, managed by a boy, the more I'm impressed by it."

"It's all of a piece with these new-fangled modern ideas of warfare," replied the admiral. "You are getting as visionary as the younger set of officers. Yet I don't see why a boy torpedo is not as sensible as most of the electrical toys of modern warships are. This is an age of experiment."

"I agree with you," replied the rear ad-

miral. "Some persons act as if electricity can take the place of a human being in directing or controlling the motion of a torpedo boat: for my part, I believe with old Greatthings that a skilled human being can direct the steering gear and placing apparatus of any torpedo boat better than a complicated piece of electrical apparatus. The old man intends that his submarine torpedo boat shall be managed by one of his boys, who, within a small space, shall be able to control the steering and directing gear of the torpedo boat, and also the raising and lowering devices. In fact, the boy will be a submarine diver, capable of moving under water like a fish."

"Electricity," said the admiral, "I understand, will provide the motive power and also will regulate a suitable supply of air from compressed air cylinders."

"That is the idea," replied the rear admiral.

"Well, we now have three boys to experiment with," said the admiral reflectively. "I don't envy the chaps in one of the old man's copper kettles under the water. If anything should happen to the craft, there would

only be one gurgle and all would be over. Let me see, how many new engines have we now on this vessel? There's the electrical steering motor and the electrical hoist, the electrical capstan, and so on down to an electrical fan. I believe that in a real engagement they would all get out of order. Electrical devices are always out of order, going to work the next day. Give me an old-fashioned line-of-battle ship, I say, with a cloud of sail that could take advantage of any favorable wind for pursuit or retreat, — a ship that rides the waves like a sea fowl and not like a great kettle. You remember our line of battle off M——, when the wooden ships stood together like enraged swans, and rode here and there and spread their pinions, while the iron-clads fumed and fretted like ugly hippopotamuses, and went down when they were riddled just like so much old iron."

"And don't you remember," said the rear admiral, pacing to and fro and working his arm, at the remembrance, "how old Sims threw out a cloud of canvas to get his ship in position, and when it burst from the bolt ropes, instead of coming up into the wind to gather in" —

“He sent men aloft to cut it adrift,” said the admiral, marching up and down in his turn on the opposite side of the saloon table.

“And a sheet of flame issued from his guns,” said the rear admiral, walking rapidly to and fro.

“And the ironclads labored in the heavy sea like logs, shooting at the moon and then at some sea serpent,” cried the admiral, gesticulating as he promenaded.

“Then the old line-of-battle ships, catching up their skirts, swept out of the line of fire and fled into the mist of the gale in which the ironclads foundered.”

“The only vessels that lived,” echoed the rear admiral.

“When you think of it, how can you dare advocate these new-fangled warships?” said the admiral, stopping short and glaring at the rear admiral.

“I was about to ask you the same question,” said the rear admiral, glaring in turn.

“The truth is, we have n't the moral courage to be called old fogies,” said the admiral, stretching out his hand over the table; and the two old friends fell to discussing whether Sims

did right in tacking so near to the enemy's ships; and then they analyzed Sims, and said he was a good fellow, just the sort you don't meet often nowadays, a good seaman and not a manipulator of a complicated machine. While they conversed amicably about Sims, the officer of the ship, Captain Rush, entered the saloon. "Well, captain," said the rear admiral, "is there any chance of my getting to my ship?"

"Well, sir, it's very thick still, and I don't believe it will clear up until we have a thunderstorm. It's rumbling now off the star-board bow."

"Not breakers, I hope," said the admiral.

"Oh no, we are well out to sea."

"Perhaps it's the signal gun of my ship," said the rear admiral.

The officer gave his reasons for believing the noise was thunder.

"I believe the old man's torpedo is going to be a success," said Captain Rush, with the enthusiasm of a man full of confidence in a new idea.

"You are one of these latter-day electrical saints," said the admiral. "Upton and I have

just had a growl over your electrical ships, and have revived reminiscences of the old line-of-battle ships of our youth."

"They were pictures," said the captain.

"Hear him," said the rear admiral, with a kindly gleam in his piercing blue eyes. "Pretty pictures, I suppose, and not to be compared to this electrical iron kettle, this hippopotamus. You've heard the old story, captain, about the country woman who remarked, when she saw a hippopotamus, 'My, ain't he plain!' She'd have said the same about your ship."

The captain laughed. He had heard the same joke twelve times before from the rear admiral's lips; but a rear admiral is privileged to tell a story twelve times.

"I have carefully examined the old man's boy torpedo," said the captain, taking a seat beside the saloon table and pulling some plans from his pocket, "and I believe it is a wonderful contrivance. By the way, these two boys we have picked up are just the fellows for Greatthings. One of them, at least, is as bold as a lion. He's already knocked that monkey Brian down."

“He has, has he?” exclaimed the admiral. “That’s promising for war; more promising than your electrical torpedo in immediate results.”

“You will perceive,” said the captain, not noticing the remark of the admiral, “that a boy inside this mackerel-shaped torpedo boat, reclining in a fairly large space, can regulate the electric motor of the torpedo and the steering gear. He can also raise the boat to the surface of the water, or sink it to any depth, by means of suitable compartments, and having reached the required point, he can disengage the torpedo just where it should be placed.”

“How is the chap going to breathe?” asked the admiral.

“Oh, this electrical contrivance admits and distributes suitable air, and takes out the vitiated air,” said the officer, pointing to a diagram. “The truth is, however, electricity cannot supersede the human fingers.”

“Hear! hear!” exclaimed both.

“I mean to say,” continued the captain, “the human mind and human fingers must be always present to control this mysterious agent and make it an obedient slave.”

While the officers discussed the Greatthings torpedo boat, the boys were hearing an exaggerated account of it from Brian, who did his best to evoke terror in their hearts. He told them of his fearful trial trips in it, — a narrow chamber in which he had to recline at length, with complicated motors all about him, all of which he was compelled to control. He had many times expected to perish, far below the surface of the water. Hal and Ned felt a great interest in the strange boat, and, much to Brian's disappointment, showed no signs of fear.

Having failed in terrifying them, he proceeded to tell them about the old man Greatthings, that he was a very rich man, owning a silver mine in the far West, and that he was considered a little crazy on the subject of his torpedo boat. Since, however, he assumed all the expense, the government allowed him to experiment aboard their ships.

When Hal and Ned crept into their close quarters for the night, they talked over the events of the day, and they agreed that life aboard the great ship would prove very interesting, even if they were obliged to go to school.

“I don't like that fellow Brian,” said Ned. “He is always thinking of himself, and I believe he is a coward.”

“He thinks you are, Ned, and you must be on your guard. Won't he be beautifully mistaken, though?” There was a look of deep affection in his strong face, as he eyed Ned; and Ned's eyes glistened when he saw Hal's look. “How pleasant,” he thought to himself, “it is to have some one in the world who thoroughly understands you.”

The ship was evidently encountering rougher water, for the timbers creaked, and the screw, coming out of water, made a great uproar. The ship's watch clattered overhead, making things fast, and hoarse orders could be heard.

An electric lamp in the boys' quarters was still lighted, and the two, reclining in their bunks, talked over the wonders in Greatthings' laboratory. While they were thus engaged, Brian appeared at the door of their quarters, and, coming in, sat down on the floor and looked at the boys. His face was very pale.

“There's a storm coming on,” he muttered; “hear the thunder!” Thunder indeed could be heard, report after report.

"This is a steel vessel," said Brian, "and if she goes down she will never come up." He shivered at the thought. "Iron attracts lightning, too," he continued.

"I don't think that is true," remarked Ned, whose face was also pale; but it had a calm look of reflection upon it, very different from the abject terror on Brian's face. The storm increased in violence, and the vessel began to pitch and roll. Every now and then, a great crackling noise was heard, and then a loud report. It was a sea engagement; but with the elements. Brian drew closer and closer to Hal, and finally asked if he might not sleep beside him in his bunk, for his own was wet from a porthole which had been carelessly left open. Hal assented, and as the fellow cuddled beside him, he perceived that he was shivering.

Hal did not know when the storm ceased, for when he awoke the ship was riding steadier, and, looking through the porthole, he saw that the sun was sparkling on the water. Brian was no longer beside him.

CHAPTER VIII

THE ELECTRICAL BOAT

ONE of the firemen of the ironclad had taken charge of Beelzebub, and Ned learned that his cat was in good warm quarters in the boiler-room. He made the acquaintance of the fireman, and was pleased to find that Beelzebub was regarded as an acquisition. When the fireman learned the name of the cat, he said that nothing could be more appropriate for a denizen of the boiler-room, and he took the boys down among the boilers and told them of the life he led. They saw half-naked figures shoveling coal into roaring furnaces, their faces gleaming in the red light which flashed upon them, as the furnace doors were flung open. When the ship lurched, these men tumbled to and fro like drunken demons. The roar of the ship's machinery and the din of the work of replenishing the fires made the remarks of the fireman who conducted the boys almost inaudible.

"This is not a pretty place to be in a heavy storm," said the fireman. "You've got to stop all thinking about what may happen. After all, everybody has got to die some time, and I s'pose a man's chances are just as good down in this hole as they are anywhere. I always sidle to the gangway, however, when there's a particularly loud noise, as if we'd shipped a heavy sea and we were turning upside down." As the man said this, he looked sideways at the two boys. Hal's face looked perfectly unconcerned and did not show a sign of fear, but Edward's was white.

"This ship has never been in a sea fight," continued the fireman, "and I can only imagine what my situation will be when she is firing her big guns, and when the enemy are firing their guns at her. It wouldn't be a nice thing, would it, to have a big shot bore a hole through the side of the vessel and make these boilers explode? I think we fellows who spend our lives down among these boilers need to be braver than the admiral on the bridge, and yet the world never hears about us, and the admiral gets all the credit."

It was very hot among the boilers, notwith-

standing the operation of the electrical fans, which were drawing out the heated air through flues.

Edward saw the firemen working with the utmost unconcern, shouting jokes to each other while the most fearful noises sounded around them. "After all," he thought, "the mind can overcome the weakness of the nerves. When I got accustomed to this dreadful place, I know I could be brave, but I believe I should die of fear before I got accustomed." The fireman had evidently made up his mind about Edward, and devoted himself to Hal, whose sturdy figure and courageous aspect apparently made the same impression on him as the mien of a bulldog might. He invited Hal to come down any day during his watch, and smoke a pipe with him. He showed the boys his nook, as he called it, and explained its conveniences. It was partially protected from the heat of the boilers, and was near one of the ladders leading out of the hold.

"I don't think about what might happen," said the fireman, "but I keep a weather eye out for the ladder. I suppose you've had an invitation to go aloft, too. You must try both

places; that's the way to be an all-round man, I take it;" and thus saying, he shook them heartily by the hand and told them it was his turn to replenish a furnace, and that they might stay with him, or ascend by one of the ladders.

Before the boys left the boiler-room, they stopped a moment to stroke Beelzebub. The cat was curled up in a snug place, on the fireman's jacket, and seemed undisturbed by the fierce lights and the unearthly look of the furnaces.

The Greatthings torpedo was stowed away between decks, and was viewed with great interest by all on board ship. There was no doubt in the minds of the crew that it would blow an English ironclad out of the water, if it were properly directed and suitably placed. On the ways where it reclined, it looked like a great shark. It was said that the old man for a while believed that he could give it an electrical brain, which would respond to the touches of his fingers on the key, at the ends of the wires, which the torpedo would trail after it in the water. He discovered, however, that the mechanism which must be placed in

the torpedo was so complicated that it would not serve for practical ends. He had resolved to train a boy, who, inclosed in the torpedo boat, should be able to supply it with a brain, and had therefore made a model, in which the boy was to be schooled for his position in the torpedo boat.

The two boys learned from Brian that the squadron, of which the *Electron*, the vessel on which they now were, was a part, had been driven out of company by a storm. The squadron was on its way to a Southern port, for international difficulties had arisen, and a war was threatened.

“I don’t know where we are bound,” said Brian, “and I wish I were ashore. I could be earning a good deal more money than I do now on this old tea-kettle.”

Hal turned to Ned with a disgusted look, which said plainly, “Why will this fellow continually talk about himself and what he might do?”

Brian discoursed at length upon the perils of the Greatthings torpedo, and he showed the boys a great tank in which experiments on the model of the torpedo boat had been made.

“ I have been down in that well for an hour at a time, completely under water, breathing a villainous mixture of air, while old Greatthings experimented with his motors. I don't believe he would care if I had been suffocated. He will care less in the future, for now he has you two to suffocate also.” Brian's vivid description was interrupted at that moment by the appearance of Greatthings, who told the boys that he was ready to hear their recitations. Hal and Ned were indeed in a severe school, for the old man had stern views in regard to lessons, and exacted great accuracy of statement. He told the boys frankly what he desired of them, and described the little submarine boats which were to be directed by them. One of their first lessons was on the properties of the air we breathe. He showed them that the amount of air in the chamber of the boat would soon be made unfit for breathing, unless some means were adopted to renew it.

“ A boy of your size,” said the old man, turning to Hal, “ requires about three cubic feet in a minute. You see, therefore, that a few breaths would use up the air in the chamber

of my torpedo boat. Now these motors which you see in this model admit at regular intervals just the right proportion of oxygen and nitrogen to make the air suitable to breathe. We have seen from our book that we must have much more nitrogen than oxygen, -- four times as much, about. My motors must control these valves of the cylinders of compressed oxygen and nitrogen, in order to admit just the right proportion of these gases. If too much oxygen should be admitted, you would live too fast. In fact, your lungs would burn up. This little fan makes the admixture of gases perfect, and this motor on the right side opens, at regular intervals, a way into which the vitiated air is drawn, so that you may always have fresh air to breathe."

The old man then told the boys some interesting facts about the atmosphere in which we live, and showed that it pressed with a force of fifteen pounds on every square inch. He compared this effect with the force with which the water would press upon the walls of the submarine boat when it descended to certain depths. The water would act just like the air, only its pressure would be greater,

even at a depth of twenty feet, than fifteen pounds on every square inch, for the weight of the water would be added to the weight of the air. All this Hal and Ned had known before, for it was contained in the book on natural philosophy which they had studied at school. They had now a more realizing sense of the importance of these simple facts. They would not be able to live under water if the pressure of the oxygen and nitrogen was too small. They would not be able to make the torpedo boat rise to the surface of the water unless they had the means of increasing the amount of the water displaced by the apparatus, for the old man showed them that what is called the buoyant effect of the water is the weight of the quantity of water which would occupy the space if the torpedo boat were not there. He told them, as he assigned them the next lesson, that practical experience would soon fix these general laws firmly in their minds.

Brian made a grimace after the lecture, when the boys were left alone to conduct some elementary experiments in the laboratory. He apparently was afraid of Hal, and he devoted

himself to Ned, trying to ingratiate himself in various ways. He had seen Ned's cheeks blanch at the discharge of lightning on the previous night, and he felt that he could alternately bully and confide in one who feared the same things which he himself was afraid of.

Several days passed before Brian had an opportunity to meet Ned alone. In the meanwhile, both Hal and Ned had been made acquainted with the operation of managing the model of the submarine torpedo boat. Brian had noticed with intense satisfaction the pallor on Ned's face when the latter saw Hal put into the model, descend into the deep tank, and heard the strange gurgling noises which came up from the dark depths.

The opportunity for a confidential talk came one evening, when Brian found Ned at the very prow of the vessel, watching the flying-fish dart out of the phosphorescent water, and leave a long trail of fire as their fins shot over the surface of the sea. The other vessels of the squadron had at last joined the admiral's ship and were steaming along in the starlight, making a wonderfully picturesque sight with their various colored lights.

“If the old man’s torpedo boat should succeed in placing a torpedo beneath a warship like those yonder,” said Brian, “I would n’t give much for the lives of those on board. It would knock a hole in no time in her iron bottom, and down she would go. Those ships cost a million of money, and one of the old man’s torpedo boats costs only twenty thousand dollars, so it would be economy in case of war to fight a million with twenty thousand, not counting the boy who risks his life in navigating the submarine torpedo boat.”

Ned did not answer; he was watching the gleam made by a school of porpoises which were tumbling in the water off the starboard bow.

“I know that you don’t like this horrid business of going under water in a sort of coffin, carrying a dynamite torpedo, any better than I do,” continued Brian, in an insidious tone. “We boys get nothing but poor pay, and risk our lives. I don’t see why we should n’t make our fortune, when we risk so much.”

“We serve our country,” said Ned.

“Bosh!” replied Brian. “Come, now, I know that you are frightened out of your life

when you think of navigating one of old Great-things' torpedo boats. Why should n't we make something for ourselves?"

"I don't understand you," said Ned. "I acknowledge that I am frightened when I think of the risk in navigating one of Mr. Great-things' submarine boats, but I can overcome my fear. How can we make any money out of one of these boats? I don't understand you."

"We three," said Brian, coming close to Ned and whispering, "are the only ones outside the officers of this ship who know about these torpedoes. When we get to the port where we are bound, we shall meet with the enemy's ships. What would be easier than to desert, and to sell our secret?"

"I never heard such a base idea!" exclaimed Ned, with a red spot in each cheek. "I may be a coward, but I am not a traitor."

"Softly," said Brian, shaking his fist in the smaller boy's face. "If you mention what I've said to any one, it will be the worse for you."

"I am a coward, and he knows it," said Ned bitterly, as his companion went away in

response to an officer's summons "but he does n't know that I can conquer myself; give me time, and I can be almost as brave as Hal." The strange communication of Brian weighed heavily upon his spirit. Should he tell the officers of the ship? He rebelled against this action, for his boarding-school experience had made him very loath to tell stories of another boy. Still, in this matter the country's safety might be in danger. Hal, at least, must be informed; perhaps he would know how to act.

That very evening, when the boys were undressing for the night, Ned, creeping to the bunk of his companion, told him of his conversation with Brian. Hal clenched his fist and breathed heavily.

"He took you for a coward, Ned, that's the worst of all."

"I know it," replied Ned, shivering with nervousness.

"We can't report him to the officers of the ship," continued Hal; "that would be telling tales, and acting the part of informers. I believe the only way is to watch him, and make him afraid of us. Perhaps he is preparing a trick to make us a laughing-stock. He

has already told the ship's officers about your mistaking the sulphuric acid stains on the old man's coat for stains of blood. I think that we had better watch him carefully before we commit ourselves.

CHAPTER IX

A MOMENT'S PERIL

BRIAN said nothing further for some days to Ned. Old Mr. Greatthings kept the boys very busy, and there was little opportunity to meet Brian outside the laboratory; for he was not always at work there, but was occasionally occupied in arranging electrical apparatus for the captain. One evening, Ned overheard the second officer of the ship berating Brian soundly.

“The trouble with you,” said the officer angrily, “is that you are always thinking of your imaginary grievances; and you are consequently in no condition, when an emergency arises, to take the right grip of things. Your mind is always thinking about Brian and his grievances. Bah! be a man, boy. Don't think the whole world is down on you; it stands ready to admire you, if you would only be admirable. If you keep up this brooding over

yourself, you'll commit a crime some day. Now stand round lively and put your heart into your work, and I'll be the first one to praise you and advance you."

The officer passed on, and Brian stood beneath an electric light in the companionway. Ned glanced at him, and saw him shake his fist at the officer, and grind his teeth, and then tear his hair. He looked like an enraged dog, and Ned was glad that the boy was not conscious of an observer, for he felt ashamed for him.

One day, Ned's turn came to go into the torpedo boat, and to sink to the bottom of the tank. He had studied the working of the motors, and was perfectly familiar with the proportion of the different gases which should be supplied to him. Hal had related his experiences also to him, and Ned had no fear of the trial; nevertheless, the excitement and nervous interest drove the color from his cheeks.

The model in which the boy was placed was lighted by a little incandescent electric light; and the space in which Ned found himself was barely large enough to contain him, and to

enable him to manipulate the electrical keys which controlled the supply of gases, and the device for raising and lowering the boat in the tank, which contained ten feet of water. Ned, being in position, proceeded to diminish the displacement or volume occupied by the boat, so that he might sink to the bottom of the tank. The little engines about him revolved; the air came into the nozzles in the chamber, and the old air was drawn out with a kind of rhythmic motion. The boy could control the entrance of the new gases and the exit of the vitiated air. He felt great pride in managing the model, and his wonder at the ingenuity of old Greatthings grew as he understood under what perfect control he held the means of breathing and the method of lifting and lowering himself in the water. There was no thought of possible peril to himself, no thought of the air nozzles becoming clogged, or of the displacement mechanism failing to work. How speedily one learns the properties of the air which we breathe and realizes the weight of the water and its buoyant effect, when life depends on this knowledge! Mr. Merkins had taught incessantly the idea that there was

no such thing as the buoyancy of water ; but Ned had only half believed him. Now he saw that buoyancy was only the weight of the water which the little model displaced ; the greater volume and weight it displaced, the greater was the tendency to rise.

The thought that Hal and Mr. Greatthings were above him on the edge of the tank watching him manipulate the model, ready to succor him if anything should go wrong with the machinery, undoubtedly helped to steady his nerves. If he were out in the sea making his way for an enemy's ship, carrying a torpedo which, if it should explode, would blow him to pieces, it would be very different ; the only way to avoid fear under such circumstances would be to know thoroughly the mechanism of the motor, and to be master of every detail of its management. Knowledge always conquers fear. Ned had a realizing sense of this truth, and he accordingly studied every peculiarity of the ingenious mechanism of Greatthings.

He had risen to the surface of the water in the tank for the eighth time, and was slowly sinking again to its bottom, when the little motor which regulated the supply of nitrogen

stopped, while the oxygen supply continued. A momentary exhilaration overcame the boy. Then the light of the little incandescent lamp seemed to grow dim, and Ned felt an overpowering desire to close his eyes and go to sleep. He seemed to be resisting this desire for hours, while he attempted to control the working of the motor which was connected with the nitrogen cylinder. Then he imagined that he was on his way to place a torpedo beneath an enemy's ironclad. He was steering by a compass, and a little glass in the confined chamber where he was stretched told him how deep beneath the surface he was. It read a hundred feet. Why he should have sunk so far below the surface, he could not understand. He was still sinking. Then the torpedo exploded with a great glare of light, but strange to say without any noise, and he found himself stretched on the floor of the laboratory, while Hal knelt beside him, pumping his arms from his side to above his head, and old man Greatthings was forcing brandy down his throat. Brian was standing by, wrapping up his hand, which had apparently been bruised. His face wore a look of abject terror when he gazed at the prostrate

figure of Ned. It seemed that the electrical current which actuated the motor had ceased, and Greatthings and the other boys had gone to the laboratory for a moment, leaving Ned at the bottom of the tank.

The evening after this accident, Ned was again on deck. The fresh ocean air was particularly grateful to him, for the accident had left him with a serious headache. He had stationed himself behind one of the great smokestacks of the ironclad, and was losing himself in a boyish reverie, wondering if he should ever command such a great ship, and building such air castles as only a boy can build, when Brian stepped out from the lee of a turret, and entered into conversation. "Now what do you think of life in a subterranean torpedo boat?" he asked. "You came very near being suffocated."

"Did I?" responded Ned. "It would have been in the exercise of my duty."

"Your duty!" sneered Brian. "What duty do you owe to an old man who is half cracked? or to a country that does n't even know of your existence? You are probably now more ready to listen to the plan I broached the other night."

Ned pointed to a line of light on the dim horizon, and asked if that were the rear admiral's ship. They had passed her in the early morning.

"I don't care for the rear admiral or his ship," replied Brian. "He snubbed me once, and I have n't forgotten it. Some day these officers will find out that I can revenge myself for my wrongs."

"Have you wrongs?" asked Ned simply.

"Have n't I, you mean. But never mind the wrongs; are you ready to join with me in getting a reward for telling about the old man's torpedo? It would mean promotion, and rank, and money."

"We should be traitors to our country," said Ned.

"Our country is going to do nothing for us," replied Brian, approaching closer and putting his arm around Ned's neck.

The latter's impulse was to draw away; but he restrained himself. He loathed this fellow who was so extremely familiar, and who would not scruple to make fun of any confidence he might gain. "I reckon that your experience in the tank makes you more ready to join me,"

said Brian, again approaching the point which he was endeavoring to make. Ned believed that the big bully was trying to make him commit himself, in order to create ridicule. It was to be a war of wits, for he could not throw off the arm that lingered around his neck, and thrust the fellow aside, as Hal would have done. He therefore pretended to fall in with the plan, and asked for further information. Brian, apparently in complete soberness, unfolded a minute scheme. It was essentially the same that he had broached before, and involved divulging the plan of the Greatthings torpedo warfare to the enemy for a large sum.

CHAPTER X

KNOCKED OVERBOARD BY ELECTRICITY

THEIR conversation was interrupted by a loud outcry and hurried orders. The boys ran forward, and saw a crew quickly lowering a boat. While the machinery of the ironclad was stopped, Ned looked about in the gloom, which seemed intense in contrast to the vivid beam thrown on the sea by the electric search light. He could not see Hal, and his heart beat quickly. Could he have fallen overboard?

"There they are!" shouted the officer in charge, pointing directly astern.

"Who is in the water?" anxiously asked Ned of a cabin boy.

"Your friend and the captain," replied the boy. "The captain fell overboard, and Hal jumped after him. He was over the rail like a Newfoundland dog, quick as a flash."

"How did the captain happen to fall overboard?" asked Brian.

“You see,” said the boy, “he was experimenting with the search light, throwing it high in the sky on those new bombs, and he got a shock from the electric wires in some way, as he leaned over the vessel’s side.”

Ned rushed to the side of the vessel, far away from Brian and his loquacious questions, and peered anxiously into the sea. The boat’s crew had neared two heads, which could just be seen in the beam of the search light. Then the sailors shouted, “They ’ve got ’em. They are pulling ’em in!” As the boat’s crew turned about and rowed to the vessel, a great quiet fell on the group who were leaning and watching over its sides. As the boat drew nearer, Ned could see Hal sitting upright and chafing the hands of the captain, who was reclining at full length in the boat.

“How is it?” shouted the second officer over the ship’s side.

“All right, sir. He’s only a bit stunned, and a bit full of water; he will come to all right.”

The boat swung alongside, the steps were lowered and everything made fast, and the captain was speedily lifted aboard by two stalwart seamen. His face was deathly pale, and

the water ran from his beard in streams. The ship's doctor speedily felt of his heart, and forced stimulants between his teeth. Ned saw the look of life return to his face, and he then threw his arms around Hal, who seemed to be forgotten in the confusion.

"Come into our room and change your clothes," whispered Ned. "You are dripping wet."

Hal said he didn't mind the wet, now that the captain was all right. He nevertheless obeyed his friend, and was soon relating the occurrence to Ned. The captain had been much interested in a new system of signaling a great distance at sea, which had been devised by himself. The distance a ship's signal light can be seen at sea on a clear night is limited by the curvature of the earth. We are on a great ball, and two ships sink out of each other's sight, under the swelling of the earth, so to speak. The captain at first thought of throwing the search light on high banks of cloud in order to illuminate them, and, by illuminating them according to an arranged code of signals, to transmit signals to ships lying beneath the sea's horizon. For the ships could

see an object high up in the sky, although they could not see each other. This plan sometimes succeeded, when suitable banks of cloud could be found in the sky; but there were often times when the sky was perfectly clear. The captain, therefore, had invented a peculiar bomb, which, on exploding at great heights, generated a dense cloud of smoke, which was very slowly dispelled and upon which he threw the search light. He believed that signals could thus be seen more than a hundred miles at sea. A very powerful search light was needed, and a very strong electric current to generate it. While superintending the laying of the wire cable for the light, he had gone to the side of the vessel to look along it at an obstruction which held the cable, and had been knocked overboard by connecting himself with the cable and the steel sheathing of the vessel.

“I was afraid that he was too badly stunned to swim,” said Hal, “and I threw off my pea-jacket and jumped after him. We struck the water not far from each other, and I saw at once that he was helpless. It did not take me a minute to turn him upon his back,

while I also turned upon my back and drew his head upon my breast. I held his arms, which feebly struck out to seize me. You know how to do it, Ned. We used to practice, you will remember, saving each other. I think I could have reached the ship, even if the boat had not been sent after us."

As Hal said this, a messenger came to summon him to the officers' quarters, telling Ned that the admiral probably wished to hear the story from his lips. Hal followed the messenger.

The admiral was marching up and down the cabin in great agitation. When Hal appeared, he stopped and motioned the boy to a seat. The second officer, who was on deck at the time Hal jumped overboard, stood in the cabin under the central light, with his naval cap in his hand. He had apparently just made a report of the occurrence.

"So you acted without orders and went overboard," said the admiral, knitting his bushy gray eyebrows, and looking at Hal.

"I did not stop to think," replied Hal.

"Where did you learn how to save a drowning man?" continued the admiral.

"We boys often practiced with each other, while we were at school," replied Hal.

"You went down once before the boat reached you."

"Yes; the captain had seized me, and it was necessary to make him release his hold. He was not conscious of what he was doing, for the electrical shock had unnerved him."

"I understand," said the admiral. "Boy, I am glad that you are on my ship. I feel proud to be in your company. I wish I had a son like you;" here the admiral brushed his eyes with the back of his hand. "Boy, have you got a watch?" Hal said that he had not.

"There," said the admiral, suddenly taking off his own and thrusting it into the boy's hand. "Take that, and say to every one that the admiral gave it to you for bravery. No words, no words," as Hal made a deprecatory gesture. "I'm a man of action as well as yourself. Good-night. The country is going to hear of you, and it will be safe if it has many more like you." The admiral waved his hand as if he were afraid of showing more feeling, and Hal, with a low bow, retired.

As he passed along a companionway, Brian,

who had been very curious to know what the admiral had said to Hal, accosted him with "Is he going to promote you?"

Hal shook his head. He would not show any confidence in this fellow, who seemed to look always on the mercenary side of every action. He said nothing of the gold watch he had received. The brave fellows of the crew should know it, for it would endear the admiral to them. It would only make Brian envious. Hal could already hear him say, "That's always the way. I'm not on hand when there's anything to be gained, and some one else gets the prize."

"How uncomfortable it is," Hal thought to himself, "to deal with a boy who never sees things as you do, and to whom you have to explain everything. I pity this fellow, for he is always thinking of himself, and he finds this very uninteresting, for he distrusts himself as well as everybody else."

When Ned saw the watch, his eyes danced with delight.

"The admiral's own watch!" he cried. "That's something to keep for a lifetime. See his monogram on the back. I don't won-

der he gave it to you. If he loved and admired you as I do, he would give you not only his watch, but his heart."

Hal threw his arms about his friend's neck, and they sat down on a bunk together, and carefully examined the watch.

"I don't feel like keeping it," said Hal reflectively, "but one should receive gifts in the spirit in which they are given. The old admiral evidently delighted himself in giving me the watch. His action will endear him to the crew, when they hear of it."

After Hal left the cabin, the admiral repeated to himself, "Fine fellow, fine fellow! Did n't stop to think of himself; over he went into the dark water threshed by our screw. The fellow don't seem to know what fear is."

"He's worth ten of Brian," said the second officer sententiously.

"I think we had better get rid of Brian," replied the admiral. "I don't like his looks."

When Brian, later in the evening, heard that the admiral had given his gold watch to Hal, his countenance grew moodier than ever. The steward had arranged a little treat, and had thought of inviting Brian, but when he

caught sight of the boy's disconsolate face, he gave up the idea, for such a face would drive away all jollity. Brian was too much occupied with his own *miserableness*, to coin a word, and did not know that the look on his face had prevented a bit of good fortune.

While he was sulking and brooding over his misfortunes, Ned's cat, which had made its way out of the boiler-room, jumped upon Brian's back, mistaking him for its master. The prick of its claws was sufficient to arouse the jealousy of Brian to the point of frenzy. He seized Beelzebub by the neck, and flung the poor creature over the side of the vessel into the dark, seething waters. Even Ned's cat had been cared for with greater interest than was awarded to him.

CHAPTER XI

IN THE REGION OF THUNDERSTORMS

As the ship approached Southern latitudes, thunderstorms became very frequent and severe. Brian often engaged Mr. Greatthings in conversation in regard to electrical disturbances in the atmosphere. The boy manifested so much interest in the subject that the old man thought that at last he was going to have an apt pupil. He described to Brian, with great enthusiasm, the experiment of Franklin with a kite, and said that he had often hoped to repeat it, but he had never had the opportunity, his life had been so full of occupation.

“A professor in St. Petersburg repeated it, and was killed,” said Brian.

“So he did, and so he was,” replied the old man, delighted at his pupil’s knowledge. “He died an amiable martyr to electricity, as the old writers of the time phrased it. He wasted

his life, for the experiment can be tried without danger, by the employment of proper safeguards."

"What do you consider the best way of avoiding danger from bolts from heaven?" asked Brian, affecting perfect unconcern, as if he were an officer who expected to handle a gun, and merely wanted to know its eccentricities.

"Put your reel of string in a pond or spring, put on rubber gloves, and let out the string as the kite ascends," said the old man.

"Would n't it be a good plan to wear rubber gloves in a thunderstorm?" asked Brian.

The old man glared at his pupil as if despair had given place to hope. "You don't expect to fondle lightning bolts for amusement," said he. "How do you expect to catch hold of them?"

In a sudden fit of honesty, Brian confessed that he was afraid the bolts might catch hold of him.

"Rubber gloves, and glass casters on beds, and feather-beds are no use," growled the old man.

"What would be the safest place on this ship?" at length asked Brian.

“The centre of one of the hollow steel masts,” replied Mr. Greatthings reflectively.

“Gracious!” remarked the boy. “You said that the lightning would probably descend by the iron mast.”

“So it would, probably,” replied the old man, “but it would come down on the outside and not a particle would pass inside; undoubtedly, the safest place would be the inside of one of the masts.”

Brian treasured up this bit of information. He had often crawled up to the cross-arms of an iron mast through the centre of the latter. The masts were made hollow in order that a man might ascend to a lookout in the smoke of a fierce sea fight and escape death from the bombs and shot.

One night a fearful thunderstorm came up from the southwest. The sky was a blaze of light from the frequent discharges of lightning. Strange balls of light were seen on the points of the masts, and a fireball rolled over the decks, pursued by the sailors who, knowing that they were bound for Southern climes, were on the lookout for curiosities.

Brian cautiously crept out of his room and,

feeling his way along the deck, reached the door in one of the masts. Fortunately he found it unfastened, and with a shiver of terror he crept into the mast. Could it be that the old man was chaffing him? It seemed clearly against reason. Brian wished that people would treat him honestly; they were always down on him. While he thought over his grievances he heard the crackle of the lightning above his head, and he expected any moment to see a fireball roll down the dark space above him. Presently there came a tremendous noise; it sounded as if ten thousand devils were beating the iron masts with clubs and the blows were resounding in the hollow tube. Brian opened the door, leaped out, and fled to his room, and, jumping into his berth, pulled the clothes over his head. He overheard one engineer remark to another, as they passed along outside his berth, "That stroke came down the mast and scattered in all directions; it burnt out the fuses in the electric cables, and all the lights are out." Brian thrust his head out from under the clothes and looked about. It was true; the ship was in darkness. But he had escaped with his life. How he could

have escaped from the mast before the lightning descended was a mystery to him. Lightning is said to travel at least a hundred thousand miles a second, and perhaps more. He certainly did get out, however. Perhaps the old man was right, after all, and the lightning discharge might have descended on the outside of the mast. One would not care to hear such a noise again.

When Brian complained to Ned on the following morning that "he was never in it," as he expressed it, and other people who had not worked nearly so long as he had got the gold watches, Ned asked him if he did not usually assist the captain in his experiments with the search light.

"Yes," said Brian. "What of it?"

"If you had been on hand last night, instead of talking over your wrongs with me, you could have jumped overboard after the captain."

"I have about made up my mind never to ask any one to sympathize with me," replied Brian savagely. "Everybody is thinking about themselves. I have had a hard time in life, and I never can get anybody to enter into my feelings. I'm going to give up trying. I'm going to look after No. 1 in future."

Ned did not say anything, and Brian strode away. Hal was the hero of the ship; and the seamen said that the admiral could well afford to give the boy his watch, for no one but the captain could manage the new electrical engines on board ship. The admiral's quick and generous recognition of the boy's bravery had its effect upon the entire ship's crew.

A point on the Southern coast had been selected for the rendezvous of the fleet which was suitable for the trial of the new machinery on the ironclads, and also for testing torpedo defenses. The boys were glad of an opportunity to go ashore, and in the midst of orange groves could with difficulty realize that only a fortnight ago they were in the bitter cold of a Northern winter. They made frequent visits to the shore in company with boat crews from the vessel.

In wandering through the old Spanish quarter of the town, the seamen stopped here and there to make little purchases, or to chaff with those who sold shell ornaments, or exhibited curiosities. Henry and Edward felt that joy which comes to those who find themselves suddenly transported from a Northern winter to a

balmy Southern atmosphere. Roses hung over the tops of the high white walls between which ran the narrow streets, alternating with great bunches of oranges. The sunlight was mellow, and everything, from the faces of the negroes to the chimney-tops, seemed to smile. The boys felt that the romance of their lives had at last begun. The discomforts of the voyage were all forgotten, and the future seemed full of excitement and pleasure. Edward took Hal's arm and executed a merry dance, laughing aloud with happiness. While he was in his most joyous mood, he saw a figure emerge from a garden gate, gaze at him, and then suddenly disappear.

"What's the matter, Ned," said Henry, perceiving that his companion trembled violently.

"Come away! Come away! We are far from the sailors," cried his companion. "I have seen the mysterious stranger, the man who with Merkins pursued us across the lake."

"Where is he?" exclaimed Henry, looking up and down the lane. Seeing no one, he scanned his cousin's pale face narrowly.

While Edward urged his cousin away, he

explained that the man had looked through the gate on their right. He had caught his eye, and they had mutually recognized each other. There was no doubt. He was the man. No one could see his malignant eyes, and the scar upon his right cheek which ran down to the upper lip and parted it so that a white tooth was always seen, and forget him. Henry calmly looked at the garden gate as they walked by it. It was closed, and did not differ from many by which the street was entered from orange gardens.

“We left the man in a snowstorm far North, Ned,” said Henry. “You must be mistaken.”

“I should know him anywhere,” replied his cousin. “You do not suppose that he will prevail upon the admiral to give me up, do you?”

“Where you go, I go,” replied Henry.

By this time the boys had rejoined the sailors, and were on their way with them to the ship. Edward occasionally cast an uneasy glance backward. As they were pushing off from the wharf, he was sure that he again saw the mysterious stranger, peering

from behind the wall of the dismantled fort which formerly guarded the harbor. Before he could make a sign to Henry, the face disappeared. It was certain that this man had escaped the rigor of the storm, and was on his way to the Southern regions to which he desired to carry Edward. The latter vainly endeavored to call up some memory of his childhood which might give a clue to the desire of this person to separate him from his cousin, but the past offered no light upon the mystery. Edward was awakened from his vain seeking by the sounds on the ironclad, which their boat had approached, and in the stir and life of the great ship forgot for the moment the being who strove to exercise an influence upon his future.

CHAPTER XII

THE MYSTERIOUS STRANGER

THE torpedo defenses of the harbor where the ships were congregated were the subject of much study by the ship's officers, and Greatthings took up his abode for the time in a subterranean gallery on one of the sand spits which extended out from the harbor. Henry and Edward were detailed to aid him in his experiments. The boys soon learned that the torpedoes sunk in the entrance to this harbor were connected by cables to an elaborate apparatus in this underground gallery. By pressing this key or that, the torpedoes could be exploded, while the operator was entirely concealed and safe beneath the sand. There was much testing of the various electrical circuits, and the boys learned the methods of determining by electricity the distance the torpedoes were from the gallery, and also the methods of ascertaining the position of any

break in the cables. Occasionally Old George would repair to the ironclad to test methods of signaling through the water without wires. He lowered something like a large telephone into the water, over the side of the ironclad, and requested Lieutenant Samuel, who took his place on shore, to listen at a similar instrument which he in turn was to place in the water on the shore. The boys assisted Officer Samuel in these experiments, and after the experiments were concluded for the day, spent the night with him in the shot-proof gallery on the sand dune. Lieutenant Samuel was a very fat naval officer, the embodiment of good humor. He had the reputation on shipboard of knowing a great deal about electricity; indeed, some thought that he knew more than Old George. Officer Samuel, however, was an extremely lazy man, — all his friends said this, — and did not present so large an appearance in the world of intellect as he did in that of matter. He was not only interested in electricity, but also in natural history; and he had made a specialty of the subject of turtles. He was, in short, a turtleologist. In the evenings spent in the subterranean gallery,

he told the boys much about this interesting creature, of which he had studied the species in all parts of the world. He told them that there was a kind which laid eggs in the sand on that very dune where they were at present. He would show them how to discover the place where the turtle deposited its eggs, and, what was more, when they found the eggs they would enjoy a fine meal. Officer Samuel described the best method of cooking the turtle eggs, and smacked his lips at the prospect.

On the following day, true to his promise, he led the boys out on the sands and began a search for the eggs. The region was one of very extended sea-beaches. When the tide was out, a broad floor of hard sand extended for at least fifty miles to the southward, and from the line of creamy breakers that curled with a drowsy-sounding roar to the edge of the sand dunes, there was a space along which six teams could be driven abreast. At the edge of the dunes there were great mounds of sand, on the top of which grew dwarf palmettos, and it was in these sand mounds that the turtles, coming in at night on the tide, laid their eggs. It was not long before

Lieutenant Samuel, led by signs which he recognized with a naturalist's skilled eye, discovered a turtle's nest, and with gloating eyes took a dozen eggs from the sand. He told the boys that he greatly desired to capture one of the turtles, in order to satisfy himself of the truth of a theory he held. To secure a turtle it would be necessary to ensconce one's self in the sand, and watch during the night.

"I cannot leave my post to catch a turtle," said the officer, "but if either of you would like to make the attempt to secure one of these animals, the cause of science would be enriched by your sacrifice of sleep. Duty or no duty, boys, I am incapable of making the attempt, for I should certainly fall asleep."

Henry and Edward expressed their willingness to spend a night watching for the turtle.

"Hold!" said the officer, with a gurgling laugh which shook his fat frame. "I have another plan. Why should n't we catch it by electricity?" Thus saying, he seized a board, and with a piece of charcoal drew a diagram. "We will run," said he, "an electrical circuit thus, along the beach and the dunes, and we

will connect it in this gallery with yonder alarm. When the turtle comes ashore, it will drag its body across the wire and break the electric circuit, and set yonder bell to ringing. Whoever hears the alarm will rush out, cut off the escape of the turtle, and fling it upon its back."

When the evening came, and the work of signaling with the ironclads was over, Lieutenant Samuel and the two boys set about arranging the turtle alarm. The subterranean gallery had galvanic cells in abundance, and the first night that the electrical circuit was laid, Officer Samuel watched with the boys. At the time of high tide he expected that a turtle would cross the circuit and cause a signal in the electrical room of the subterranean gallery. Midnight passed, and no signal had sounded. The tide was now ebbing, and the officer told the boys, with a resounding yawn, that there would be no turtle that night. On two succeeding nights the same ill success attended their efforts. The third night came, and Lieutenant Samuel was obliged to repair to the ship to receive directions in regard to the torpedo work. He would return shortly

after high tide, and he counseled the boys to be on the lookout for the turtle. Henry had been actively employed during the day, and Edward insisted upon his taking a nap while he watched alone. For a few hours the two boys had been left in charge of the subterranean gallery, for the marines had accompanied Officer Samuel to the ironclad. Expecting every moment to hear the steps of the returning sailors, Edward watched the signals in the little gallery, ready to show a red light or a blue light for the information of the officer on the ironclad; or, when an index arm fell, to rush out and cut off the retreat of the turtle.

At the exact hour of high tide, a signal indicated that the electric line along the shore had been broken. Edward looked at Henry, but his attitude of deep slumber awakened a throb of love and compassion.

“Poor fellow!” he murmured. “He is tired with the day’s hard labor. I will go out alone and throw the turtle on its back, according to the directions of Officer Samuel. It may be that this is a false alarm; and in that case, it will not be necessary to awaken Hal.”

Thus thinking, he took a dark lantern and a stout stick, undid the lock of the outer door of the gallery, and started on a trot along the beach. Coming from the strong light in the retreat under the sand, the night seemed very dark. In a moment he distinguished the long line of waves which were now close upon the sandhills. If he encountered the turtle he would have to act quickly, for the distance to the water from the sandhills, where the turtle laid its eggs, was everywhere short. Edward proceeded cautiously, reaching down to the beach to feel the electric wire, when suddenly he was seized from behind. For an instant he thought that the turtle had rushed out from some nook in the foothills of sand and had attacked him. In his horror, inspired by the thought of a contest with an enraged reptile, he shook himself free from the grasp which had seized him and, turning the light of the bull's eye lantern which he carried upon his assailant, saw the face of the mysterious stranger. Before the man could seize him again, he was off with the fleetness of the wind. His opponent started in pursuit, and his feet became entangled in the electric wires.

Henry was awakened from his deep sleep by an agonizing cry, and jumping up he stared about him. Edward was not beside him, and the signal set for the turtle line was down. His eyes had hardly perceived all this before another loud cry was heard outside. It was Edward's voice, and Henry rushed out into the darkness with the thought that the turtle had attacked his cousin. He saw, in the dim light, Edward struggling with a man, and in an instant he was upon the latter, catching him by the throat. The assailant released his hold of Edward, and turned to give all his attention to the more powerful boy. The two cousins were thrown hither and thither in the sand; but Henry was like a bulldog, and sprang at the fellow again after each repulse. While the boys were engaged in the fierce struggle, a boat containing Officer Samuel and some marines approached the shore, and the mysterious stranger bounded into the thick undergrowth of palmettos and disappeared. Lieutenant Samuel was astonished at the exhausted state of the boys, and listened to their story with the utmost interest. He immediately sent off a

detachment of marines to search the promontory for the fellow.

“It does not make much difference,” said the officer, “if the ruffian eludes us, for we leave this place to-morrow, and it is not likely that he will follow us. Still, I should like to give him a good drubbing, and ascertain his motive in separating you boys.”

Orders had arrived, and the ironclad was made ready for sea. The boys left the old town, with its picturesque Spanish quarters, with a strange mixture of regret and relief. The mysterious man seemed like the moccasins snake which they saw in the old curiosity shop in the town. The owner of the shop said that the snake often reposed in the most charming nook of jessamine flowers, or on a branch of fragrant magnolia blossoms. The boys wondered if the stranger, like the snake, would appear again, when happiness seemed to be attained.

No one knew to what port the ironclad was bound. It was said that the admiral sailed under sealed orders from the seat of government. In a few hours the great ship was rising and falling on the swell of the ocean,

and the low Southern coast-line had entirely disappeared. Brian, who had not been detached for service ashore, was in a very unamiable mood, and told the cousins many rumors of perils which they might encounter. It was said that the ironclad was top heavy, and might overturn in a heavy gale such as is often encountered on Southern coasts. The doors of the air-tight compartments had sprung and could not be closed, and the engines of the ship were sadly in need of important repairs. Henry heard these stories with a contemptuous look, and remarked that the officers of the ship were ready to risk their lives apparently, and he did not see why boys could not be as brave as men.

Brian turned his back upon Henry, and scanned Edward's face carefully. He evidently felt that he could continue his recital of possible dangers to Edward when Henry was out of hearing.

"Ned Kingsley does not suspect," said Brian to himself, "that I threw his cat overboard. He thinks that it jumped into the sea in a fit. So I am all right as far as the cat is concerned."

CHAPTER XIII

OFF BERMUDA

THERE were many surmises among the crew in regard to the destination of the vessels. A difficulty had arisen with foreign powers ; and it might be that the squadron was on its way to take Cuba, or possibly to confine the British fleet at Bermuda. It was certain that the squadron was on its way to Southern waters. The appearance of the stars at night, the warmer water, and the appearance of the clouds by day indicated this. Moreover, a Southern bird lighted one day on the admiral's ship, and remained with it for several hours. One morning land was descried off the star-board bow. To the landsman nothing could be seen ; but a sailor pointed out to Hal a low-lying cloud on the horizon.

“I believe it is the Bermudas,” he said.

After a while the little streak grew more strongly marked, and a mirage made it seem

as if there were palm-trees rising from the horizon.

The sailor said that there were no palm-trees on the islands, except in the gardens. The islands were covered with a kind of cedar, and were not at all tropical like Cuba and the islands of the West Indies. The other vessels of the squadron were now well together, and they made an imposing appearance as they steamed along in company.

“Uncle Sam is going to frighten those English fellows at Bermuda,” said one sailor to another.

“Wait until you see their ships,” said another, rolling tobacco about in his cheek. “We can’t make any show against them.”

“Don’t you believe it!” said the first speaker. “Our new ships are far ahead in guns and speed. We’ve got a lot of new electrical engines of which they have no idea. The Yankees can out-invent the world. There comes a pilot!”

The conversation of the men was turned from the respective merits of the two navies to a wager whether the pilot would be a white man or a black man, and the men nearly came

to blows on the subject. The officer on the bridge was surveying the horizon with his glass, and occasionally issuing stern orders. Meanwhile, the pilot-boat drew nearer. It was occasionally lost completely from sight in the heavy roll of the sea. Its sail had been lowered, and it was waiting the approach of the leading ship. After the ironclad had approached within a certain distance, a small boat put off from the pilot-boat with two men in it. One man was left on the pilot-boat, who speedily hoisted its sail, and the small yacht stood off under the fresh breeze. As the boat drew nearer, it was seen to be rowed by two negroes; and it was not long before the taller of the two stood on the deck of the ironclad, and was in close consultation with the officer. The crew watched the two with intense interest when they were not busied with their work. It was evident that the foreign fleet at Hamilton were not on the watch for the arrival of the American squadron; for, in that case, no pilots would be allowed off the shore. The admiral and officers of the *Electron* were soon entertaining the officers of an English man-of-war, who

came aboard to pay their respects to the visitors. They were completely ignorant of any international difficulty, and the officers of the *Electron* treated them with all the consideration due to their rank. If news should come on the morrow that war had been declared, the American and the English ship would be pitted against each other, and the officers who were now gayly chatting with each other would be deadly foes. After the visitors had been escorted to the side of the vessel, and had taken their departure, the admiral and the captain of the *Electron* repaired to the cabin and talked over the situation.

“The two war vessels alongside of us are not the equal of this,” said the captain, “but they might sink us in a close fight. Moreover, they will know when to manœuvre for position, for they have control of the cable office. I hear that the cable is broken. If it should be repaired soon, and news should come that hostilities have begun, we would be at a disadvantage in this harbor. We cannot anticipate matters, taking these ships and these islands, for the international difficulties may be arranged. It seems to me that we had

better leave this harbor, and join the rest of the squadron. If we could only get hold of the cable, we could forestall any movement of the English ships.”

Old George, as he was familiarly called on board the *Electron*, went to the cable office on shore to see if he could assist in locating the fault in the cable. The telegraph operators were loath at first to take advice from an outsider; but he speedily showed his knowledge to such an extent that they were glad to avail themselves of it. It was soon discovered that the break was a short distance off the shore. This was apparent from the rate at which a given quantity of electricity imparted to the cable leaked into the water. In the absence of the steamer which was provided with a suitable dredge for lifting the cable, the operatives felt that nothing could be done. Old George, however, said that the electrical resources of the *Electron* might be employed to find the cable, and he offered to intercede with the admiral.

The telegraph operator accepted Mr. Greatthings' proposal, and after permission had been obtained of the admiral, went aboard

the Electron. The operator was much puzzled to know how the old electrician proposed to find the end of the cable. He heard him give orders to a boy to enter a curiously shaped submarine boat, and saw it, containing the boy, lowered over the side of the vessel. The curious boat darted away like a great fish in the clear depths of the water, and disappeared from sight. After they could no longer trace it, the telegraph operator and the old man went to the laboratory between decks, and examined the apparatus for electrical testing. It did not take long to put this in order. Before they had entirely completed their arrangements, Hal Kingsley walked into the room, and said : —

“I found the cable a short distance astern of this vessel.”

“Good,” exclaimed the old electrician, beaming at the boy over his spectacles. “We will dredge for it.”

The ship’s officers sent men to the spot indicated, and speedily succeeded in getting hold of the cable ; the end was brought on board the ship, and preparations were made for signaling. The operator sat before the

signaling instrument, and the old electrician balanced the electrical circuits, while he also kept his eye on the little spot of light which by its movements to and fro would spell out a message. In a moment the light began to dance over the scale which received it, and the operator, supposing that the old man could not read the various messages he received in regard to the condition of the cable, read them aloud. Suddenly he ceased to read audibly, and mumbled over the words. Greatthings' quick eye read the following:—

“To the admiral. War may be declared. Hostile fleet off Bermuda. Take measures.”

The operator rose from his seat in a nonchalant manner, and said that nothing now remained to be done but to splice the cable; and he would go ashore immediately and obtain assistance.

The electrician said nothing, but after the telegraph operator left the ship, communicated his knowledge to the admiral. The latter and Captain Rush gazed at each other for a moment in silence.

“We must request the rear admiral to send us another ironclad from St. George's, in

order to be ready for any emergency," said the admiral, bringing his closed hand down upon the table with emphasis.

"The quickest way to get word to him would be to send a messenger across the island," said the captain.

"Let it be done immediately," replied the admiral. "Send Lieutenant Brown, and that boy Hal to fetch and carry for him. He will need some assistance in holding his horse, and that sort of thing."

Lieutenant Brown was summoned, and the situation was explained. After a few hasty preparations, he, together with Hal, set out for the port of Hamilton. The night was sultry, and they passed many rowboats with pleasure parties. Now and then a negro song floated over the water. The channel was a very devious one, and several times the sailors ran ashore on islands, thinking that they saw a space of clear water ahead. After a weary row, the lights of the town of Hamilton could be seen glittering along the low shore; and the boat drew up to a stone pier, along which the crew groped to discover landing-steps. In a moment the landing-place was reached; the

officer and Hal hastily mounted the steps, dismissing the boat's crew. Hal found himself on a rambling pier covered with sheds and low warehouses. There was no appearance of life, for the hour was late, and the place was not an attractive one in which to loiter.

"We must get a conveyance of some sort," said the officer; "a wagon, or two saddle-horses. Can you ride, boy?"

Hal laughed with glee at the thought of a ride, and his laugh was a sufficient answer.

"You go in one direction, while I go in another," continued the officer, "and perhaps we shall hit upon a stable. Meet me here at this corner in ten minutes by the admiral's watch, and report."

Hal set out on a trot, looking up and down for signs of a stable. Presently he ran across a negro, who gave him some thick directions, and said he had a donkey. Hal said he didn't believe a donkey would do; in fact, he knew it would n't. He must have a swift horse with a wagon, or two saddle-horses; and he ran away from the negro. The streets rambled up from the water's edge, and there were only a few lights visible here and there.

Loud voices were heard, as if there was a fight in progress, at a corner of a high wall over which the frond of a palmetto drooped. The boy stopped cautiously, and stood in a recess of the wall. He could see a naval officer with a band of marines, who were dragging some drunken sailors down to their boats. Hal looked at his watch. The ten minutes were up, and he ran back to the corner where he had promised to report to the officer. A negro was there with two donkeys, each attached to a little cart. Lieutenant Brown presently appeared. When he caught sight of the diminutive donkeys he roared at the negro, and demanded what he meant by bringing him those insects instead of horses. He sent the negro off and, giving new directions to his companion, set out again. This time Hal was more fortunate, for he happened to pass a stable which a hostler was preparing to close for the night. The man said that he had two good saddle-horses, and the boy, having engaged them, returned to the rendezvous. The lieutenant, who had returned from an unsuccessful quest, was much pleased, and repaired to the stable. Having obtained full

directions, the two mounted, and galloped over the white streets, between high walls and through lanes shaded with dark cedars. The road led through deep cuts in the limestone, and then emerging, skirted acres of Easter lilies, that filled the air with a heavy perfume. In the dim starlight one could see the white-washed roofs of low houses. A spicy odor filled the air: the combination of the odor of lilies and that of the cedar-trees. The horses' hoofs clattered over the hard limestone roads, and a dog bayed from a house on a hill as they passed. Occasionally they stopped, uncertain which road to take. Hal frequently had to arouse a negro family from their humble quarters, to ask the way. There was a delightful sense of adventure in the night ride. The air was soft; there was a feeling of romance in the strange landscape, and they were riding hard to avert danger to the ships. After a ten-mile gallop over and between low hills, they came out upon a long causeway, and saw the lights of St. George's in the distance. On entering the town, they rode through high white walls and under a swinging sign of an inn. There were no sidewalks, and many of

the houses were entered directly from the street. The two riders turned quickly to the water's edge, riding through lanes so narrow that they could almost touch the white houses with outstretched arms. Above their heads were the walls of the old fort, overhanging the town. When they reached the wharves, they sought for information in regard to the squadron, which they had been told lay at anchor in the harbor. They could see the ships' lights, and the officer interpreted a signal which appeared on one of the vessels. The rear admiral's ship was there, and beyond it were the rest of the squadron.

Henry's bosom swelled with a patriotic feeling as he thought that these ironclads belonged to his own native land. He would do his part to defend that land in the struggle which seemed imminent. The two could not, at first, find a boatman; but they discovered a boat, and immediately taking possession of it, pulled for the rear admiral's ship. A consultation of the officers of the squadron was at once held, and the situation at Hamilton was considered so grave that an ironclad was dispatched to that port, bearing Lieutenant Brown and Henry Kingsley.

While the officers of the *Electron* were awaiting the arrival of the rear admiral, the old inventor, after having in vain endeavored to adjust a piece of electrical apparatus, told the boys that he was tired of work, and proposed that they should accompany him on a geological excursion to see, as he said, "how the islands of Bermuda arose from the sea." The boys were very ready to accompany him, for he seemed to them like some necromancer who could find something strange beneath every stone. On landing at Hamilton, he led them by the side of the bay, beneath some tall palms which he said must have been planted there, they were so unlike the general character of the vegetation of the island. The road soon ran between white rocky walls, and it was not long before they emerged upon the southern shore of the island.

"Over yonder, six hundred miles or more," said Mr. Greatthings, "lies the island of Cuba. We are on a coral formation in the broad Atlantic, and here we can see how these islands were formed." Thus saying, he descended the white sandhills which stretched above the rocky beach in dunes apparently the length of the island.

The sea washed in from far-off Cuba with a melancholy cadence, and broke here and there upon curious circles of rock, which jutted out of the water like the skeleton jaws of some animal, with here and there a tooth broken out. Mr. Greatthings pointed out these semi-circles of coral, and showed that, as soon as they appeared above the water, the waves broke off the coral and ground it to a fine sand, and filled up the space within the semi-circle. Then the wind took the finely divided coral dust and blew it hither and thither, lodging it against some higher jutting coral reef, and made the dunes, which caught floating seeds, and in time formed the various little islands which are called the Bermudas. While the boys stood on the beach, the wind stirred the light coral dust and blew it up the sides of the dunes, where it whirled about like a wreath of snow, and settled among the stunted cedars.

The boys traced the formation of the island as they walked along the seashore toward the lighthouse which marked the southern extremity of the larger island. Having obtained permission of the custodian, they ascended the

lighthouse. To the surprise of Mr. Greatthings, an oil lamp was used in the lighthouse instead of an electric lamp. While he was discussing with the keeper the relative merits of the two kinds of lights, Henry and Edward gazed through a porthole over the islands. From the top of the lighthouse one could see the Bermudas spread out like a map. Beside the larger island upon which the lighthouse stood, there were twenty or more little isles hardly large enough for a house. The most beautiful sight was the sea, with its great stretches of superb color,—carmine, and ultramarine, and emerald green. To the right was the town of Hamilton, its white-roofed houses looking like a hamlet after a late April snowstorm, and in the outer harbor was the Electron.

The boys heard the lighthouse keeper say that an electric light would require the employment of a steam engine, and if anything happened to the machinery, it might go out just as a ship was most in need of the information given by the light. Old Mr. Greatthings replied that of course it would be necessary to have a storage battery as a reserve source of

electricity. The lighthouse keeper conceded that such a battery would be of advantage; but he was inclined to think that an oil light could be seen, on the average, — foul weather and fair, — about as far as an electric light. After a long discussion, Mr. Greatthings set out for Hamilton with the boys, considerably perturbed by his talk with the lighthouse keeper.

“There are some folks,” he muttered, “who would go back to candles, I’ve no doubt.”

Edward speedily turned the current of the old man’s thoughts by asking how the coral dust could have formed the white rock through which, in many places, the roads were cut. The old inventor explained that the rain solidified the coral dust into a species of limestone. He showed them the lines in the white rock along which the successive layers of coral dust had settled. As they were discussing this subject, they passed a quarry and saw men sawing out blocks of the stone. It was so soft that the saw cut it as it might cut the substance of trees. The workmen said that it grew hard on exposure to the air.

It had always been a favorite theory with

the old man that boys can be taught much, unconsciously to themselves, by directing their attention to objects about them. He chuckled to himself as he thought, "Now these boys have had an old pedagogue teaching them geology, and they don't know it."

The boys long remembered that walk in Bermuda. There was a delicious freedom in escaping for a time from the narrow quarters of the warship. The air was laden with the odor from the fields of Easter lilies. Occasionally the rich voice of a negro could be heard singing joyously as he worked in the fields, and the redbird whistled a refrain to the negro's song. Over the smooth white limestone roads the pedestrians tramped, with glimpses of the sea now on one side and now on the other. Suddenly the white road would seem to lead directly into an indigo pool of the sea, framed in by dark groves of cedars, then it would skirt the edge of the pool and return into the bosom of the undulating hills which had been formed by the winds.

"It is interesting," said Mr. Greatthings, pausing on the brow of a hill from which they could gaze into the main street of Hamilton,

“to reflect that all this life, these lilies, these homes, have come to a gathering of sand blown hither and thither out of the sea. If so much can come to a heap of sand, how much can come to a man’s life if it is well and richly ordered.”

CHAPTER XIV

THE STORM

THE ironclads at St. George's were detained by mishaps to their machinery, and another day passed in uncertainty on the *Electron*. The weather had become extremely sultry, and the sea moved uneasily and heavily. It was noticed on the ship that the barometer fell rapidly. This might be a peculiarity of the islands, which had been moored, so to speak, in the Atlantic. When the morning broke, the sky was filled with murky clouds, which were convoluted and involuted in a weird way.

"If it should come on to blow," said the captain of the *Electron* to the admiral, "we should be in a bad position. There is no sea-way back of us, and only a narrow channel by which we can obtain sea-room. In front there are coral reefs, and a small harbor with many perils at low water."

"Put out all your anchors," said the ad-

miral. "I reckon we 'll hold in case it comes on to blow. There are no tidal waves here such as I've seen in the Pacific. If I had seen that dirty sky in the South Seas, I should have made up my mind to get plenty of sea-room ; but it will blow over at Bermuda."

The English officers were evidently uneasy at the looks of the weather, and changed the position of their ships, so that if the anchors dragged they might not drift upon each other. The crew on the *Electron* felt that on the approach of the rest of the squadron, the English ships would be summoned to surrender, and everything had been put into fighting trim on board the *Electron*, for it was reasonable to suppose that the powerful vessels of the English would make a vigorous defense, even against the large number of vessels which would be opposed to them. At eight bells, a heavy sea began to run in, and the ships rolled uneasily. The waves rose to a prodigious height, and did not seem to be lessened by the outjutting points of land which formed the harbor. The English ironclads were dangerously near the shore, and the great rollers which were setting in seemed to make

their anchorage insecure. The crew of the *Electron*, forgetting their danger, — for they were in a more unprotected position even than the English ships, being farther outside, — watched the manœuvring of the English ships with great interest; but the peril they were in soon drew their thoughts to their ship. A drag had already been put out, while certain anchors had been lifted in order to find a better hold.

The captain of the *Electron* gazed anxiously at the long bar stretching across a portion of the harbor, which was sufficiently covered at high water to enable his ship to steam over it, but at low water would not permit her floating. If the hawsers did not hold, and if the engines could not keep her off, the heavy seas would be extremely dangerous. The waves were already rising over the shoal like great sea animals.

The admiral paced back and forth, now looking at the flying clouds and then at the sea.

“With a well-rigged frigate, I should soon get into better sea-room,” he said impatiently to the captain; “but with this behemoth we

must trust to your engines. If the machinery breaks, we are lost."

"Never fear," replied the captain; "we can keep her where she is."

The English ships were evidently afraid of the close quarters they were in, and they endeavored to keep clear of each other, and to maintain their position in the shelter of the harbor. A native pilot who was on board the *Electron* said that he had never seen such a sea at Bermuda. Great walls of water rolled in from the sea over the outlying coral reefs, and hardly lost their force when they reached the opening of the harbor.

"The English ships are drifting!" cried the captain of the *Electron*.

The admiral shielded his eyes from the driving rain. It was evident that the position of the ships had changed.

"If they cannot keep clear of that bar, they are lost," said the admiral. "That heavier ironclad is half broadside now to the waves. There! there!"

As the admiral spoke, the vessel leaned over heavily; then she righted. Her companion ship was rocking up and down, with her bow to the waves, and sliding slowly astern.

“They are lost!” cried the crew of the *Electron*, as they witnessed the struggle of the English crews. “No need of our riddling them with shot. The gale is doing our work, and will be after us next.”

The position of the American ship was indeed as dangerous as that of the English ones. The engines did not seem to be able to hold her, for she was slowly losing way and nearing the reefs. The gale, as if encouraged by the weakening of the monster engines of the vessel, suddenly redoubled its blow.

“Ha! ha!” shrieked the demon of the wind, summoning all the forces of the air. “We are forcing them on the reefs!”

The admiral’s hat was blown from his head, and his gray hair was disheveled. As he stood on the bridge, his look was unearthly. There was little hope on the iron ship. Suddenly the machinery of the *Electron* was felt to be working more feebly, and an officer informed the captain that a portion had become disabled.

“I expected it,” groaned the admiral. “Oh, if I only had an old-fashioned ship-of-war!”

The captain made no reply, and ran below.

“We are lost!” cried the sailors, who were gathered together at the bow, thinking what they should do when the vessel struck, for action now seemed to be useless. Suddenly the English ships were seen to cease drifting and rolling, and began to obey their helms. They were moving away from the dangerous shore, and with all steam up were gallantly forging their way out of the harbor into the teeth of the gale. As they passed close to the laboring and disabled *Electron*, which had begun to roll fearfully, the crew of the American ship, drenched by the spray and clinging on for life, cheered the English crews. The old admiral, who was on the bridge, heard their cries, and a look of enthusiasm came over his troubled face.

“There’s hope for mankind when men, in the jaws of death, will cheer their enemies,” he muttered. “Good, my men!” he shouted. “Give ’em another!”

The cheers of the American sailors were answered by the English sailors, who sprang up on the yards of the ships and waved their hands to those less fortunate. The English

frigates labored heavily, and forged along, the officers evidently believing it would be safer to get to sea than to buffet the waves which washed into the entrance to the harbor.

The drifting of the *Electron* was arrested for a moment, for the captain had pointed out to the engineer how the machinery could be temporarily repaired. The crew again took hope, and they remarked that the gale blew with less force. The captain shook his head as he looked about him. The vessel must strike on the hidden reefs. It would be better that she did so rather than drift broadside on to the shallow bar. The coral reefs might hold her in a wedge. Hardly had the thought occurred to him when a grating noise was heard, and the vessel struck.

“We are aground!” shrieked the crew, running along the deck tumultuously.

The officers ran among them, forced them into order, and compelled them to take shelter from the waves that swept the vessel. Every one expected that the vessel would keel over under the load of her heavy guns, but she stood up as if held in the stocks.

“We are fast!” exclaimed the admiral.

“The bow is wedged in the peculiar coral caves which lie off this shore,” said the captain, holding his cap with both hands. “We shall have nothing to fear from a drift, and the weight of the vessel will prevent her rising and falling and beating on the bottom.”

His words seemed to be justified by the action of the ironclad, which stubbornly received the blows of the waves, never recoiling or keeling over. The captain entreated the admiral to leave the bridge, over which the brine swept in heavy gusts, and almost forced him below. Every provision was made to keep out the water, and they awaited the cessation of the gale.

Ned had watched the scene from a porthole of the laboratory of the ship, for Greatthings had told him that the deck was no place for a boy. The old man, during the uproar of the gale, had calmly busied himself with his experiments, as if the ship were in no peril.

“The mind a kingdom is,” he said, when he gazed at the pale face of the boy. “Keep busy, and you can face the worst perils which this life can bring. Here, coil this wire for me, and mind you count the turns carefully,

for if you get on too much wire, our experiment with the new motor will not succeed. Give each turn a good coat of shellac, and be lively, for we have delayed too long with the preparation for the experiment.”

CHAPTER XV

ON THE ROCKS

WHEN the sun went down, the sea was as smooth as if there had been no commotion, and the sea-gulls, which had been borne no one knew whither by the fierce gale, returned to balance themselves and to cleave the still air with their graceful wings. Boatmen were about the ironclad, curiously examining her, and watching the efforts of the crew. The great engines were exerting all their strength in reversing the motion of the screw, but the ship did not move. A hawser was attached to a steam yacht and to the stern of the ironclad, but the engine of the yacht was powerless to move the great weight. At midnight, the engines were stopped, and all was silent on the ship, save the footsteps of the watch.

The ships at St. George's had ridden out the gale in safety, for they had not encountered the long rollers and the tidal wave

which had been so powerful at Hamilton. The rear admiral, although he feared to diminish his forces, immediately dispatched a small ironclad to the assistance of the *Electron*. On the arrival of this aid, another attempt was made to drag the *Electron* off the reef; but all the efforts of the engines of the assisting ironclad were of no avail. When it had been shown that the vessel was too securely wedged on the reef to be drawn off by this vessel, it was proposed by the officers to lighten her by throwing overboard a portion of her armament. The old electrician appeared before the board of officers just as it had been decided to sacrifice the heavy guns, and asked leave to be heard on a plan for saving the vessel.

“We are only too glad, Mr. Greatthings,” said the admiral, “to hear of any feasible plan of getting us out of our difficulties.”

The electrician then unrolled a map before the officers. It was a careful representation of the coral reef upon which the vessel’s bow rested.

“The sea,” said the old man, “has washed out or eroded these caves in the coral forma-

tion. Here is a great cañon, so to speak, in which this ship is wedged. The only way to release her is to break down the wall of the cañon."

"Pray, how can that be done?" asked the admiral, in an impatient way.

"By an electrical torpedo," answered the electrician; and he proceeded to explain a plan for shattering the rock by properly placing a torpedo in one of the caves beside the cañon.

The officers discussed the danger of injury to the ship, and were agreed that the risk was too great. Greatthings acknowledged that the peril would be very great; but if the torpedo was properly placed, he thought that the wall of the wedge might give way under the explosion.

"How would you deposit the torpedo?" asked one of the officers.

The old man advanced to the light before which the admiral sat, — the conference took place on the second night after the storm, — and fixed his large, lustrous eyes upon the admiral.

"I will agree that a torpedo shall be placed at any point indicated by you, sir," said he.

The officers bent over the plan, and considered what would be the effect of an explosion at various points. At length they decided that the torpedo should be sunk in a recess or cave, a little to the right of the bow of the ship; for if the wall of the wedge was dislodged at this point, the fragments would topple over into a cave which was, according to the soundings, one hundred fathoms deep. Greatthings then said that his submarine torpedo boat was perfectly able to do this work of placing a suitable torpedo. He would soon be ready for the trial.

CHAPTER XVI

THE SPORTS OF BERMUDA

NED'S compassion for Brian grew less when he again encountered him. The calm water and the fixed position of the ship had overcome the latter's fear, and he was a bully again.

"I like to see the old admiral and that martinet of a captain in trouble," said he to Ned.

"Their trouble is our trouble," remarked Ned, looking up with surprise in his eyes.

"It is not my trouble," replied Brian. "I hope the British will return and take this old ironclad. I reckon they will, for she is hard and fast, and nothing can move her."

Ned did not answer. It was plain to him that Brian must not be sent down in the submarine boat with the torpedo, for he might place it where it could knock a hole in the vessel's bottom. Brian had traitorous thoughts,

Yet Ned and Hal could not tell any one of their suspicions of him. His utterances might be regarded as merely ebullitions of ill-temper.

The admiral evidently had more faith in the ability of the rear admiral's powerful ironclad to pull the *Electron* off the rocks than in the plan of exploding torpedoes in the coral reef. He awaited with impatience her arrival, which was expected every hour, for signals answering the signals of the *Electron*'s search light had been received. On the day following the storm, a distant vessel was descried advancing along the devious channel which led to Hamilton. Was it really the rear admiral's ship, or a returning English cruiser? If the English fleet should come in, having received news of the opening of hostilities, there would be no use in endeavoring to free the *Electron*. Presently the American flag was seen, and the crew of the imprisoned vessel set up loud cheers. In an hour, hawsers were attached to the *Electron*, and her sister ship endeavored with all the power of her great engines to pull the *Electron* off the rocks. Cable after cable snapped, and the water boiled at the stern of

the two vessels, as the screws struck the water with immense energy; but it was of no use. The ironclad did not move. There was no alternative but to try the explosion of torpedoes. Hal and Ned felt great confidence in the ability of Greatthings to release the vessel.

"I hope they will send me down in the submarine vessel!" exclaimed Hal.

"I heard Mr. Greatthings say," replied Ned, "that Brian had had more experience in managing the apparatus of the boat, and that he would probably be the best one to make the trials. If he is not selected, the chance ought to be decided between us by lot. I should never forgive myself if, having given way to you, anything should happen to you. If the lot, however, should fall to you, I should be resigned; it would be the fortune of war."

"I ought to stand aside and let you have the chance of distinguishing yourself," cried Hal, with enthusiasm. "I know that your mind would conquer all fear, and that you would examine those caves more critically than I should."

The friendly contest between the boys was interrupted by the arrival of the hour for

their studies in Greatthings' laboratory. The old man was already very busy with his preparations for placing the torpedo. He carefully explained to the boys the construction of this torpedo. It contained a charge of dynamite, and wires were carried into the shell of the torpedo, in order to explode the dynamite by an electric current. These wires were to trail from the torpedo, and to be connected with a source of electricity on board the *Electron*. The torpedo was to be placed on mechanical arms connected with the submarine boat, and could be dislodged from its supports by the boy who was in the boat. It could, therefore, be left on the bottom of the reef wherever it was thought desirable. Ned noticed that Brian looked very moody as the torpedo was explained, and he gazed significantly at Ned when Greatthings remarked that sufficient dynamite could be placed in the torpedo to destroy the *Electron*, if the torpedo rested directly against the bottom of the vessel.

The preparations for placing the torpedo were hurried on with great dispatch, and Greatthings announced to Brian that he would

be selected to make the first attempt to explore the reef and to place the torpedo. The boy said nothing, and bent his head over the work which had been assigned to him.

“I should be afraid that he would place the bomb too near the ship’s side,” whispered Hal to Ned. “He is no friend to its officers.”

“We must not do him injustice,” replied Ned.

“Yet we ought, it seems to me, to tell our thoughts to the admiral.”

Hal thought it was their duty, since there was so much at stake. While they were debating in regard to the best time and place to make their disclosures, an officer informed them that they could join a ship’s company that was going ashore to witness some sports on the island, an invitation having been sent to the ship by the general in charge of the military post, who very much commiserated the sad plight of the officers and men of the *Electron*.

There was nothing to do on the ironclad until *Greatthings* and the captain had completed their preparations for the explosion of the torpedo, and accordingly the two boys

jumped into the man-of-war boat with the enthusiasm of youth, and were soon conveyed to the port of Hamilton. Brian, too, was on the boat. He kept away from the boys; but this did not surprise them, for he generally had the air of entertaining a grudge.

“I have n’t done or said anything yet,” said Hal.

“And I haven’t done or said anything,” echoed Ned.

The sports to which the ship’s company were invited took place in a sort of amphitheatre, bounded on one side by a gentle slope which led up to the lines of fortification of the principal fort on the island. A motley crowd was assembled on this slope, — red-coats lying on the grass, and groups of negroes playing with little mongrel curs.

The élite of the island were gathered on the steps of a little cottage, which served as a grand-stand. Here were to be seen officers in brilliant uniform, and young ladies in gay dresses. The racecourse ran round in full view of all, at the base of the slope and in front of the cottage.

Hal and Ned sat down on the slope, and

felt a delicious sense of exhilaration as they gazed upon the group of prancing horses in the track below them, and heard the inspiring strains of a band as it came out of an archway of the fort and marched down the grassy slope to the grand-stand. The soft sky was full of fleecy clouds, and there was a silver sheen on the sea. The attention of the boys was soon fixed on some officers who were racing their horses around the track. Each rider carried a bag of apples slung upon his back, and there were tin pails filled with water placed at equal intervals along the race-course. Before coming to the pails of water, the rider must put his hand in his bag, take out an apple, and, on arriving opposite a pail, fling it into it. The horses sheered wildly at each effort of the riders to throw their apples. It was not easy, after having flung one apple, to control a galloping steed, take another apple from a sack, and repeat the effort. The two boys gazed with intense interest at the efforts of the officers, and applauded loudly when one of them succeeded in lodging his apples in pail after pail. One rider lost control of his horse, and was carried up the slope,

dispersing the crowd of soldiers who were reclining there. Then came a hurdle race, and then a donkey race.

“Well, boys,” said the pleasant voice of an officer, “this is a pretty sight. One can hardly realize that there can be a war when one looks on such a peaceful scene as this.”

The young man sat down beside the boys, and gazed with them at the donkey races. Each donkey was harnessed to a tiny cart which bore a young lady and an officer. The donkeys were gayly decorated, and were urged to a gallop by whip and loud cries.

“One could walk almost as fast as those donkeys gallop!” exclaimed Hal contemptuously.

“I don’t see any pleasure in beating the poor animals in that way,” remarked Ned.

“The pleasure is in seeing your acquaintances in an amusing situation,” said the officer.

At the conclusion of the donkey race, Ned, touching Hal significantly, directed his attention to Brian. They observed him moving among the English officers, holding their horses, and occasionally getting an opportunity to ride a horse from point to point.

The boys walked to the town through lanes of oleanders, occasionally stopping to allow the clattering donkey carts on the way home from the races to pass. Redbirds flitted through the oleanders, making the pink flowers of the latter pale by comparison.

The boys lingered on the old pier, watching some negro sailors manœuvre their small sailboats in the narrow passages of the channel. Feeling the softness of the air, all disposition to stroll through the streets of the town lay dormant, and they listened to the talk of the idle negro porters with interest, and fell to wagering with them on the success of a sailboat with a large triangular main sheet. While they were thus engaged, a small steamer was seen behind one of the little islands in the channel. The negro porters called to one another to make ready the bridge, for the steamer would soon arrive at the pier. Then the boys witnessed a strange method of constructing a gangway. The steamer came near to the landing, but the tide was low, and it was impossible to approach nearer than ten feet to the pier. To bridge this gap the negroes extended two long

pieces of timber, reaching from the masonry to the vessel; then two negroes, "shinning" down the timbers, one on each, tied with ropes cross-joists to the timbers, making in this way a gangplank. The tourists on the newly arrived steamer laughed loudly at this ancient method of providing for them a landing-bridge, and chaffed the negroes, who worked with the utmost solemnity at a task which long usage had made very familiar to them. While Hal was looking at the bridge-building with great interest, he suddenly felt himself drawn away by Edward.

"Let us go to the ship's boat!" whispered the latter.

While he said this, Hal felt the hand which clutched his arm tremble. He looked about him quickly, and his eye fell on a man in the impatient group of passengers which was gathered on the deck of the steamer. The man was also earnestly watching the awkward operation of building the gangway, and was not looking at the boys. He had a scar on the right cheek, and his eye-tooth could be seen where the scar had cleft his upper lip.

Edward's feet hardly seemed to touch the

ground as they moved rapidly away. It was plain to him that the stranger had followed him, and would demand him of the admiral. The only hope of safety would be in getting Old George to intercede. Perhaps it might be represented to the admiral that Edward's services in managing the torpedo boat were essential and should be retained. This was a small hope, but it was the only one the boys had, for it did not occur to either to desert the ship and hide themselves on the island. They found the sailors ready at the landing-steps, and were soon on their way to the Electron. To Edward the picturesque town with its cloud of houses with snow-white roofs, overtopped here and there with palms, no longer looked attractive. He hoped that the ironclad would be floated on the morrow, and that they would steam away with all the speed possible.

CHAPTER XVII

ON THE SEA FLOOR

WHEN the ship's company returned to the vessel, Brian was not among them. His absence escaped the attention of the officers until the morning when the preparations for the trial of the torpedo boat were completed. Then a great inquiry was made for him; but he was not to be found. Accordingly, Ned was selected to make the first trip in the submarine boat. It was to be merely a preliminary trip, to see if a clear idea of the bottom of the reef could be obtained.

Ned found himself, in a narrow chamber, sinking over the side of the ship. An electric light illumined the water about him. The air within the chamber was fresh, and the mechanism which propelled the boat was perfectly under his control. The bottom of the sea was indeed full of strange reefs, great caverns, and mysterious openings. Strange fishes swam

around him, and the plants of the sea undulated in the depths, illumined by the electric light. The boy noted the trend of the coral reef, and saw that there were great recesses in the reef to the right of the bow of the vessel. Into one of these caves or recesses he directed the submarine boat. This cave had a curious vaulted roof, from which long needles of rock hung like icicles. The floor seemed tessellated and upheaved. While Ned gazed at it, it was slowly withdrawn from his sight, and then he thought of the deep-sea serpent, and wondered if he had caught sight of the tail of the immense and mysterious creature.

Ned had been told to examine the position of the bow of the ironclad, and then to direct the submarine boat directly away from the bow, and to study the character of the coral reef. Mr. Greatthings had said to him, "You will find caverns under the reef upon which the bow of the ship is wedged. With your small submarine boat you can enter these caverns and bring back a description which will enable us to decide where the torpedo should be placed."

Ned found that the submarine boat was

entirely under his control,— he could move hither and thither as if he were a fish, and could rise or sink at pleasure. The water was of a beautiful hue where the sunlight could penetrate to the underlying coral. In places it was of an amber shade and then of a purple cast,— tints due to the varying color of the coral rocks. Where it was of greater depth, it became the richest green, which changed to inky blackness as the depth increased. The beam of the electric light brought out the formation of the rock, illumined the columns and sides of the caves, and made them seem like the effigy-covered entrances of an old cathedral seen by moonlight. In the beam, strange fish disported themselves, or dived out of the path of the light. The sea floor was covered here and there with sea animals, which scuttled under the plant-like fronds of a species of coral.

Ned, having penetrated into a cavern, allowed the boat to rest for a moment on the bottom, which was of a curious tessellated formation. This bottom presently began to move, and the submarine boat rolled to and fro. Great folds rose up in the beam of the

electric light, and Ned hastily set the motor in motion, and backed out of the cave. Could it have been the sea serpent? A cold shiver came over him. Certainly he had seen scaly folds writhing and unfolding themselves. In a shelf in that cavern was the best spot to place the torpedo. Could he venture into that cave again and run the risk of the great serpent crushing the submarine boat in its fearful folds? As he rose to the ship's side, he thought out the situation quickly. He must not say anything in regard to the creature he had seen, for he should shiver in the recital, and his tremor would be taken as an evidence of fear. The captain would say, "We need a cool head and a brave heart for this enterprise. Let the boy place the torpedo who sprang into the sea after me on a pitch-dark night." No; he must keep his mouth shut and give a plain recital of the capacity of the cavern for receiving the torpedo, and he must place it there.

After a consultation with Henry, Edward concluded to tell Mr. Greatthings of the strange moving thing which he had encountered while beneath the water. The old man

listened with attention. There had been stories told of a sea serpent having been seen on the shore of Bermuda ; indeed, some scholars discerned in the tradition of a hideous sea monster inhabiting the shores of these islands, the original of Shakespeare's creation of Caliban in "The Tempest."

"Perhaps it would be well," said the inventor, "to obtain photographs of the caves about the bow of the vessel. They would be useful in determining upon the best position for a torpedo. We might also obtain a picture of this sea serpent."

It did not take his active mind long to devise a photographic camera, together with a flash light which could illumine the recesses of the subterranean caves. The apparatus was mounted near the head of the torpedo boat, and the boy who was managing the craft could set off the flash powder at any moment by merely touching an electric key, which caused an electric spark to set fire to the powder. It was wonderful how much assurance this photographic arrangement gave Edward when he descended again into the deep caverns below the water. When we set ourselves steadily at

work to solve a mystery, — to find a ghost, for instance, — the fear of the mysterious something disappears.

Edward had been told to take a number of photographs of the hidden rocks, even if he should not be apprised of the presence of the sea monster. He therefore endeavored to place the torpedo boat in positions which might enable him to get the best views of the rocks in which the vessel's bow was wedged. At the first explosion of the flash powder, there was a tremendous commotion about the torpedo boat. It seemed to roll completely over in the water. The flash powder gave a weird greenish-white light to the water, and for an instant Edward saw strange waving forms all about the boat. He confessed to himself that he was much terrified; but he set the machinery of the boat in motion, and proceeded to another spot and took another photograph. This time there was no movement in the water about him, and the light illumined merely the great submarine coral walls. Having taken a large number of negatives, he ascended to the surface and related his experiences. The old inventor proceeded to develop

the pictures. Naturally, the development of the first negative which was taken was watched with the greatest interest. It proved a strange one. On the centre of the plate seemed to be a serpent's head with enormous fangs. Two great protuberant eyeballs had apparently caught the glare of the flash light, and between what seemed the eyes was a scaly forehead. Edward was sure that he had obtained a photograph of the sea serpent. The old inventor thought the picture might represent the side of the cavern, with holes washed out by the constantly moving water. The eyes might be seashells adhering to the rocks, and the fangs could be swaying fronds of coral. The photograph was shown to the officers of the ship, and opinions were very evenly divided. Some saw the sea serpent's head very clearly, while others were sure that the picture represented a recess of the rock. No one, however, could account for the strange movement in the water and the rolling of the torpedo boat.

It was agreed that a shelf in the rock described by the boy was the best place for the torpedo, since its explosion would tend to

break down the ledge upon which the bow of the ship rested. The rocks would fall into great depths of water, for the boy said the electric light failed to show any bottom in the centre of the cavern.

Before Ned set out with the torpedo, the crew of the *Electron* were transferred to the rear admiral's ship, and the hawsers were again made fast between the *Electron* and its companion ship. At the moment of the explosion all steam was to be on, to seize the instant when the bow of the imprisoned ship would be loosened from the jaws of the rock.

Ned got into the boat as soon as possible, to hide his face, which he knew was white. He felt very indignant that it should be so, and that he could not control the pallor. The captain uttered cheering words, and gave his last directions, and the boy was speedily sinking and directing the boat again toward the cavern. The electric light showed once more the disporting fishes, and the waving fronds, and the strange effigies carved by the ceaseless action of the waves in the coral formation. He coolly directed the boat into the mysterious cavern, and made directly for the

shelf where he was to deposit the torpedo. The great moving folds were no longer to be seen. Ned dislodged the torpedo from the mechanical arms which held it, and, reversing the motor, came out of the cavern and ascended to the surface. When he was taken out of the chamber of the boat, he fainted away. On recovering, he found himself in a boat which was being pulled to the rear admiral's ship, and Hal was dipping up salt water and pouring it on his head.

"You will be all right in a moment," said his friend. "It was probably the close air in the boat. It is very good air, but nature mixes the proportions better, I imagine."

Ned pressed Hal's hand appreciatively. "He knows that I was terrified almost to death," he thought to himself.

When the boys reached the rear admiral's ship, they proceeded to its bow to watch the explosion. At a signal given by an officer, Greatthings suddenly closed an electric key. The boys saw the water of the harbor rise as if a great whale had suddenly come to the surface. The hawsers tightened with a jerk, the Electron's bow rose, and then a

great wave surged from the sides of the iron-clad.

“She’s afloat,” shouted the officer, dancing upon the bridge.

“I hope there’s no hole in her side,” said the admiral anxiously.

“Never fear,” answered Captain Rush; “the limits of the explosion were too far from her bottom.”

The crew on the rear admiral’s ship cheered loudly as they saw the *Electron* move under the pull of the hawsers; and the small fleet of sailboats and rowboats that had been ordered to keep out of reach of the explosion set out immediately for the *Electron*, and were soon clustered about her.

CHAPTER XVIII

A DISTINGUISHED VISITOR

GENERAL GORDON, who had charge of the military force stationed at Bermuda, had been greatly interested in the endeavor of the Americans to rescue their ship. In case war should be declared, the *Electron* would prove an easy capture. Above the natural desire to a soldier to have a prospective enemy at a disadvantage, there rose a feeling of sympathy for the plight of the American admiral. He watched from his residence, through a telescope, the mysterious operations on board the warship; he saw the failure of the sister ship to drag the *Electron* off the reef, and he wondered what was being lowered over the deck. A group of English naval officers were gathered near him, and offered many suggestions in regard to the possible operations of the Americans. It was generally agreed that some form of torpedo was

about to be tried. While the group was thus occupied in watching and surmising, a cablegram was brought to the general.

There was great suspense pictured on the countenances of the officers, for the message might state that war had been declared.

“The international difficulty has been submitted to arbitration,” read the general. “It is peace, and not war. Thank God!”

The sun, which for hours had hid itself behind a cloud in the western sky, suddenly illumined the sea, and spread a warm yellow glow over the islands which dotted the harbor of Hamilton.

“The American vessel moves!” cried a naval officer, who had been gazing steadfastly at the ship.

The group directed their eyes to the distant ship. It was true that the warship which had so long remained steadfast was moving. General Gordon, looking through the telescope, said that the water near the ship’s bow seemed to be in a state of great commotion. The general invited a party of officers to accompany him in his launch to the *Electron*, in order to extend the good news of the

resumption of cordial relations between England and America.

The admiral was told of the approach of the general's launch, and preparations were made to receive the distinguished guest. It could not be that he was coming to invite a surrender, for the *Electron* was not under the guns of the fort, and the English warship had not reappeared.

General Gordon's launch speedily came alongside the ship, and the visitors were received with great ceremony by the officers of the *Electron*.

After General Gordon had heartily congratulated the admiral on his success in saving the *Electron*, he remarked : —

“The international difficulty which has so long threatened to bring on a war between our two countries has been happily adjusted at last. I received a cablegram last night from the home government to this effect. The entire difficulty arose from the efforts of a few meddlesome politicians in both countries to make capital for themselves.”

The American officers looked at each other significantly, and suddenly grew extremely

cordial. An era of good feeling seemed to have begun, and even the English crew, which awaited orders, arranged a friendly boat race with the American seamen, who conversed with them over the sides of the warship.

“It seemed,” continued the general, “at one time, as if hostilities must break out. Indeed, if our rocks could but hold your ship, we were considering whether our fleet could not keep you a prisoner.”

The American officers appreciated the frankness of the Englishman, and humorously told him of their power to blow the entire English navy to bits.

“You must have some wonderful invention, some submarine boat, which has enabled you to float your ship,” said the general. “Perhaps it might have been sent with deadly effect among our fleet. We ought to be thankful that Englishmen and Americans have concluded to reason together, instead of proceeding to fight.”

The general and the admiral discussed English and American politics in the most friendly manner in the dining-room of the *Electron*. They found that they had many

mutual friends, and that their ancestors had fought side by side in the battle of Trafalgar.

General Gordon gave a short account of his life in India before he came to Bermuda, and said that he was going back to England soon, to settle down upon his estates. Life in Bermuda was extremely monotonous.

The admiral looked at his guest, and remarked that he was too young to give up active life and retire to an estate.

"I suppose," said he, "you wish to enjoy life with your family."

"I have no family," replied the governor, setting his jaw with a firm look, while his eyes seemed to invite sympathy. "I had two boys," he said, with effort, "but they were drowned in the Mediterranean."

The admiral extended his hand, and the two men gazed at each other across the table.

"Yes," continued the general, "I had two boys once. I intrusted them with well-trying servants, while I went on a sudden mission to India, expecting to return in a few weeks. During my absence, they were drowned, together with a faithful servant, in the harbor

of Genoa." Thus saying, he remained silent for a long while.

The admiral respected his feelings, and waited for him to resume.

"The children were very young at the time. Their mother had died, and I had necessarily to depend upon nurses and servants. The man in charge of my household was a faithful fellow, and he went down with the children. I shall never know why he took them out on the water, and how the accident happened."

The two men discussed the strange vicissitudes of life, and arose from their interview fast friends.

The general invited the officers of the *Electron* to a reception in honor of the saving of the ironclad, and when he left the ship he was given a grand salute from the big guns of the *Electron*. The parting wave of the hand of the admiral spoke more to him, however, than the noise of the cannon, for it expressed the sympathy of a human heart.

CHAPTER XIX

THE TRAITOR

AFTER the sports, Brian did not join the boat crew with whom he had landed. Strolling away in an unconcerned manner, he hid behind an oleander hedge, until he felt sure that the boat had put off for the ship. He then emerged and joined the group of young officers, who were talking over the races and the merits of their horses. The officer whose horse Brian had held put his hand in his pocket and offered the boy a shilling. Brian refused the money, and said that he had something important to reveal.

“Well, my boy, speak out,” said the young man.

“I know the secret of an invention which is intended for the destruction of your ships,” said Brian.

“The deuce you do!” exclaimed the officer. “I say, Crab,” to a comrade, “here’s a boy

big with a secret. Well, out with it, my lad. If it's a good one, we'll give you something for it. Destruction of our ships! Is the fellow crazy?"

"I belong to those American ironclads yonder, at Hamilton," said Brian. "If war is declared between England and America, the new invention which I speak of will be of great importance. It will destroy your great ships," continued Brian, fingering the bridle of Officer Crab's horse.

"Well; give us an idea of this wonderful invention," said Lieutenant Crab, with a side look of incredulity and amusement at his friend, Lieutenant Mowbry, which was not lost on Brian.

"What can I get for my information?" asked Brian stoutly.

"Oh ho! I see you are a Yankee, and accustomed to swapping jackknives," exclaimed Lieutenant Crab. "Come, now, tell us about this wonderful invention which will be used against us with such effect."

Brian slowly shook his head and repeated, "My information is worth a great deal. I must have an agreement before I tell any one."

“Do you believe it will be necessary to take this fellow to the general?” asked Crab of Mowbry. “The old cock will think we are a pair of gulls, and we shall be the laughing-stock of the regiment. I say, boy, how much do you expect for your wonderful information?”

“That depends on the value of what this invention can destroy,” replied Brian.

“By Jove! the boy is a born financier,” cried Mowbry.

The two officers conversed apart, and after a while told the boy to follow them; and they turned their horses toward the barracks.

As Brian trotted along after the horses, a negro boy ran beside him, and asked what chance there was of his getting on to the American ships. He was tired of living on the islands, and wanted to see the world. Brian asked him what he did for a living. He replied that he waited on the officers and was a general factotum. He did not like his life, and wanted to see the United States, where he was told there were great chances. Brian reflected that he had voluntarily left the paradise which this colored boy longed for. He did

not like the imperative way these officers treated him, and he began to shudder at the step he had taken. His spirits were still more disturbed when he was conducted into the general's quarters, and found himself confronted by a very martial officer with fierce whiskers.

The general cross-questioned the boy, while several officers of the post listened, and then sent for an electrician, and Brian gave a general account of the submarine torpedo boat. There was a sufficient amount of plausibility in the boy's story to warrant further investigation, and the general gave him in charge of an orderly, saying that he should be heard again in the presence of the governor-general and the commandant of the naval forces. Brian felt a sense of importance as he was escorted by the officer with jingling sabre and a fine uniform, but this sense of importance presently gave way to fear, when he heard the door of the apartment assigned to him in the barracks locked. He was a prisoner. Perhaps they intended to send him back in disgrace to the *Electron*. He shivered at the thought, and examined the window of his little cell. It was barred on the outside. At nightfall, supper

was brought to him. He heard the music of the military band of the post, the changing of the squads on duty; and then the night descended, and he threw himself on his couch, and complained bitterly of the difficulty he always experienced in getting on in life. No one seemed to believe in him.

At an early hour he was up. From his window he could see over the islands of the harbor, and could descry the *Electron*, with the rear-admiral's ship near. Breakfast was brought him, but no information was vouchsafed in regard to the hour when he should meet the governor-general. The day wore on, and there was nothing to be done but to gaze out of the window, and to listen to the bugle calls and the sound of changing sentinels. In the late afternoon, while watching the *Electron*, he saw her suddenly change her position. Then he saw her swing alongside of her companion ship. She was off the rocks! The boy's heart beat fast as he pressed his cheek against the window bars. Black smoke was issuing from the great funnels of both vessels, and then they began to steam through the channel. "They are off!" cried Brian, wring-

ing his hands; and a feeling of affection for his country came upon him with irresistible force. It was mainly a selfish feeling, for he reflected upon himself as a prisoner, and Hal and Ned as free. The American ironclads were doubtless making for St. George's, where the other ships of the squadron were gathered. Brian carefully examined the bars of his window. He must escape that night and make his way across the island to St. George's, and rejoin the fleet. He could make up a plausible story of detention. "Yes; it must be done," he gasped to himself, as with firm set jaws he nervously tried the fastenings of his window. At first there did not seem much hope of loosening them; but under increasing effort he felt them give way in the soft limestone rock in which they were embedded. The boy resolved to wait until it was dark, and sat down on his couch and ate his supper which was brought him with as unconcerned an air as he could assume.

Meanwhile, the officers of the fort had witnessed the successful attempt to float the *Electron*, and returned to their quarters discussing the means which the American officers had

employed to free their ship from her dangerous position. How the torpedo had been placed was a mystery, for no boat had been seen to make soundings over the reef. The English officers talked over the story of Brian, and resolved to examine him thoroughly on the morrow. The floating of the great warship had led them to place more credence in his tale of a new invention.

The night came on dark and rainy. A thunderstorm swept over the island, bringing a strong odor of lilies to the window of the imprisoned boy. He had little thought of the sweet air, — liberty was sweeter. The fastenings of the window finally gave way under his repeated efforts, and he proceeded to drag himself through the opening. Before dropping to the ground, he waited until a flash of lightning should reveal more clearly his surroundings. When it came, he saw a sentry box not far from his window, and he could see the gleam of a bayonet; but the guard was seeking the best shelter he could from the driving storm. Drenched immediately to the skin by the torrents of rain, the boy lowered himself by the gutter, and reaching the ground,

crept along the wall of the barracks. In a few moments, he reached the gate of the fort, and recognizing the entrance through which he had followed the officers, he plunged down the slope and gained the high road. He knew the direction of Hamilton, and he accordingly proceeded directly away from that town, remembering that St. George's was at the extreme limit of the island. He was guided by occasional glimpses of the lighthouse near Hamilton, and striking the road which led along the shore, he made his way toward the distant lights in the direction of St. George's. The sea washed close to the edge of the road, and its waves had a very lonesome sound to Brian as he trudged along. Occasionally, he passed little white hovels, but the lights were out. Once he heard the clatter of horses' hoofs behind him on the hard limestone road, and he ran over the rocks to the edge of the sea, and crouched behind them. A heavier wave than usual swept over him, and losing his foothold, he fell back into the water. Struggling through the waves, he scrambled over the jagged rocks, and cast a terrified look at the angry sea, which seemed anxious to claim him

as its prey, and at the receding forms of two officers who were galloping along the road. Had his escape been discovered? In a moment he was on the road again, chilled through and through by his bath. Truly life was made very hard for him! On and on he walked. The storm had passed out to sea. He could see the zigzag lightning over the lights of St. George's, and through the rifts of the clouds a star now and then shone kindly. It was a weary walk of ten miles, and in that walk Brian thought over various stories which might account for his absence to Captain Rush of the *Electron*. He could truly say that he had been imprisoned by the officers of the fort, and that he had escaped. What should he reply to questions in regard to the cause of his imprisonment? The English officers had treated the officers and men of the American ship with great courtesy, and it would not be believed that they had imprisoned the boy except for some flagrant offense. Could he not maintain that he had been wrongly accused by another boy, after the races, of stealing the watch of an officer? This story might answer; but would not the Englishman naturally make

a complaint to the captain of the American ship? The *Electron* had left the harbor before this complaint could be brought. Brian began to believe that the story would answer, and he felt that his miserable plight would awaken compassion.

It was close on midnight when he reached the confines of the town of St. George's. The lights had been put out one by one, and the town was wrapped in slumber.

The boy crept through the narrow streets, and made his way to the water's edge. There, in the outer way, were the American ships, and he recognized the signal light of the *Electron*. How was he to reach her? A boy's cry on the wharves would only bring some sleepy watchman to his side, and not a ship's boat. He wandered up and down, trying to find a boat in which he might put out to the ship. It would not do to wait until daylight, for he would certainly be seized and returned to Hamilton. No boat could be found. He sat down near an old dismantled ship which had been forced by some storm high up on the shore, and thought over his desolate situation.

The great ironclad lay in full sight, and the

boy thought of her luxurious appointments, — luxurious to one in his situation. Good food could be obtained there, and companionship. He had despised the latter a few hours ago, but now it seemed sweet, and he resolved to be a braver fellow, at least if his story should be believed, and if the world would only treat him more kindly. Nerved up by the emergency of his situation, he calculated the distance to the *Electron*, and looking about for a plank, determined to swim to her; for he had often swam a mile in sport. He was not long in discovering a suitable board, and divesting himself of his coat and shoes, which he tied up in a bundle and confined to the board; then he waded into the water and struck out for the ship. How long the way seemed to the light of the ironclad, and how near the gloomy town looked! He was chilled through and through, but in desperation he swam on and on. Once he made no advance, notwithstanding his great efforts. The plank swayed back, and would not move on. It had been caught in a fisherman's net.

Freeing himself from this obstacle, Brian wearily set out again, and found himself, at

length, near the great side of a vessel. He could see the watch walking up and down.

The boy hallooed, and the seaman who was pacing the deck at the bow suddenly stopped and gazed at the dark water. Another seaman came to his side, and their voices sounded strangely distinct to the half-drowning boy.

“I say, Jim, did n’t you hear a halloo?”

“I thought I did,” replied Jim.

“There! there! off the starboard bow!” said the first speaker.

“Help! help!” cried Brian.

The seaman ran across the deck. In a moment there was a rumble of chains, and Brian saw a boat lowered from the davits. A light was thrown upon the water, and illumined his pale face.

“There he is!” cried a voice, directing the boat. In a moment Brian was lifted over the gunwale in an exhausted condition.

“He will come to,” he heard a harsh voice say. Then the same voice was heard giving loud commands to hoist sails and clear the deck. The vessel began to rise and fall on the open sea, and the light of St. George’s fell astern.

Brian, feeling more restored, looked about with a strange feeling of apprehension. On what ship was he, and where was it bound? Presently he arose, and staggered to the gunwale. The ship's bow was headed to the south. In the dim light he could see the ocean's horizon, stretching far away, a homesick line, and the lights of the town twinkling over the stern of the strange vessel, as if reproaching the boy for leaving acquaintances, and comfort, and security for the vast unknown.

“So, my little chap, you have come round all right, I see!” said the captain of the vessel, slapping Brian on the back. “We were in want of a boy of your size. You escaped from the man-of-war, I suppose. Well, you'll find this a good tight ship, and I've no doubt we shall get along well together.”

The captain suddenly cast a glance at the southern sky, and shouted out orders to prepare for a blow. He ordered Brian to spring into the rigging to help the sailors furl a flapping sail. Brian felt weak, but he did not dare to refuse, and painfully mounting to the cross-trees, struggled out upon the yard-arm.

The wind freshened, and lightning darted hither and thither. The vessel leaned over and dashed through the dark sea, occasionally throwing great masses of spray from her bow. The rain came in gusts, and the seamen uttered hoarse cries in response to the orders from the deck. Brian, in his anguish, reflected that he had left his country, and was bound he knew not whither, among strangers who had no interest in him. The brig upon which he was dashed along in the increasing storm, and the lights of Bermuda were lost behind the waves which rolled higher and higher.

In the darkness we shall leave Brian, hoping that when the storm is over, after long months and perhaps years of absence, he will return to his native land ready to appreciate and to serve it.

CHAPTER XX

AN IMPORTANT CAPTURE

IN returning from the visit of congratulation to the *Electron*, the launch of the governor-general passed near an old fishing boat which was beating out of the harbor. The craft was managed by a negro clad only in a pair of white drawers. His black body was wet with the spray which dashed over the gunwale. In the bow crouched the figure of a white man, with a slouched hat drawn closely over his face. Just as the sailboat tacked to avoid the launch, a gust of wind exposed his countenance. The general sprang to his feet, and cried in a stentorian voice to the negro:—

“Come up into the wind, and let down your sail!”

The officers on the launch and the crew were amazed at the command of the general, and at the strange look upon his face. Certainly the negro had not transgressed the law

of the right of way. He had given the launch wide sea-room. They soon perceived that the general's gaze was directed to the white man and not to the negro. As the launch approached the sailboat, which was tossing up and down with its bow in the wind and its sail gathered in, the white man, to prevent being enveloped in the folds of the sail, struggled to his feet and confronted the occupants of the launch.

"Take that man aboard," commanded the general, with a tone in his voice which his aids had never heard him use before.

The crew of the launch caught the sailboat with their boat-hooks, and the stranger stepped aboard the launch. He placed himself behind a tall boatman, as if anxious to interpose the man between himself and the stern general.

"So, Stephen, you were not drowned with my boys in the harbor of Genoa," said he to the man. Then his voice sank to a hoarse, suppressed tone, and he ejaculated with effort, "Where are my boys?"

"I will explain everything to your satisfaction, general," said Stephen, the scar upon

his face becoming painfully visible in contrast with the pallor of his cheeks.

“Are they alive?” asked the general, with a husky voice.

“They are alive,” replied Stephen.

General Gordon sank back into his seat as if determined not to show any more emotion before the crew, and the launch was swiftly directed to the landing-pier. On reaching the shore, the general directed Stephen to be carried to his residence. He gave orders that he should not be disturbed by any one, and having locked the door of his study, seated himself before his prisoner, and said, “Tell the truth, the whole truth, or, by heavens, you shall rue it!”

“Your boys are within easy reach,” said Stephen, as if anxious to conciliate his opponent at the outset. “I can produce them in an hour.”

The governor-general jumped to his feet with a radiant look upon his face, and seized the door-knob; but suddenly asserted himself and resumed his seat.

“Go on with your story!” he said to Stephen.

“When you were in India,” began Stephen, “your next of kin — I need not name him — approached me with a plan for securing the succession to your estates for himself.”

The governor-general rose from his seat and paced the study back and forth, casting contemptuous glances at his companion.

“You, my tried servant, the guardian of my boys, — you suffered yourself to become the tool of an infamous person! Well, go on!”

“The plan was,” continued Stephen, moving a chair between himself and his listener, “to make it appear that the boys were drowned while sailing with me.”

“I see,” interrupted the officer. “My devoted servant was to be drowned also.”

“It had been my custom to take the children out on the water for an airing, and it was arranged that the boat should be found upside down, floating in the bay, together with the children’s hats.”

“A pretty plot, forsooth!” ejaculated General Gordon. “My next of kin must have studied Shakespeare’s ‘*Tempest*,’ to have arranged his tragedy so finely. Well, we are in Bermuda. I can imagine the rest of your

tale,— how you, a smooth rascal, took a bribe, and entered heartily into the plans of a knave to injure the master who had heaped benefits upon you. Now, produce the boys. Where are they ? ”

“ On the American warship, the *Electron*. I do not wish to excuse my acts, Sir Richard,” continued Stephen. “ I know that I merit your contempt. I am heartily sorry for my part in the plot. It was with a view to restoring the children to you that I came to Bermuda, having traced the boys hither.”

“ I suppose you learned that my worthy kinsman had broken his neck on a fox hunt, and losing all chance of further remuneration from him, thought that you might turn a penny with me.”

“ You are too hard upon me, Sir Richard.”

The general did not vouchsafe a reply, but touched a bell. In a moment an orderly appeared.

“ This man is under arrest,” said his master. “ Let him be closely confined until further orders.”

Stephen attempted to make a long explanation of the motives which induced him to

enter into the conspiracy, but Sir Richard dismissed him contemptuously with a wave of the hand. Standing at his study door, he watched the orderly as he conducted his prisoner in the direction of the barracks, and then sank into a chair and buried his face in his hands. "My boys! my boys!" he murmured, and then springing to his writing-table he hurriedly penned a note to the admiral, asking him as a favor to bring the two boys who, he understood, were on the ship, to his reception. After the dispatch of the note, he heard a redbird outside singing merrily as it flitted among the fronds of the palmetto-trees. It seemed like an Ariel singing.

The general's thoughts went back to those long, weary years of service in India, during which the news had come to him of the loss of his wife, and then of his two children by drowning in the harbor of Genoa. It seemed as if fortune, in heaping honors upon him, was busy also in taking away all that made life attractive. That the succession to his estates should pass to his kinsman had not troubled him, for his only interest after his great affliction was in the conscientious performance of

his duties. The knowledge that his children were alive suddenly made all his old hopes and aspirations burst into flame, and annihilated the period of want of joyousness that had elapsed since the news came to him that the children were lost.

“Fifteen years ago,” he murmured. “I was then a young man, and now I am a gray-haired old chap; of course my boys will not know me.”

Henry and Edward Kingsley had been informed by the American admiral that the governor-general wished to see the brave boys who were so instrumental in saving the warship. Henry’s countenance lighted with joy when he heard Edward’s name coupled on equal terms with his own. Their presence among the officers in full uniform was observed by the crowd assembled in Hamilton, and the remark was made: “Those boys steered the electrical fish under water.” When such remarks were heard in the intermission of the splendid music of the martial band which was stationed on the landing to salute the visitors, what wonder that the boys’ hearts leaped with joy and pride.

CHAPTER XXI

THE MYSTERY SOLVED

THE officers of the American ship were the recipients of many attentions along the route. American and English flags were hung out together from the windows of Hamilton. Every one seemed to rejoice that the peaceful relations of the two great nations were not to be disturbed. The veranda of the club-house was filled with young English officers, who cheered lustily as the Americans assembled on the pier. How different the scene would have been if war had been declared! All the manifest good feeling would have been changed to rancor and hatred.

The road to the general's residence ran through great cuts in the limestone rock. In turning into his grounds, one found himself in a tropical garden filled with various kinds of palm-trees. The young negro who was driving the officers of the *Electron* pointed out

with great pride the beauty of the general's residence. He confessed that he had never been off the island; to him the place appeared magnificent; to the Americans, however, it seemed a very modest tropical residence.

"How old is the general?" asked one of the officers, as the carriage bowled along the white limestone driveway leading to the door of the residence.

"Oh, he's ageable, sir," replied the negro.

"What is ageable?" asked the officer.

"He's fully forty-five," replied the driver, "but he plays a good game of tennis yet. They say he had a great blow once, — lost his family by drowning, and he's not been the same man since. You'll see it by the looks of his hair."

At the general's there was great excitement. Servants flew in all directions, and guests began to arrive even from St. George's. The negro servants of the governor's household could not understand why their usually quiet and reserved master should be in such an excited state. He paced up and down, and was impatient at the least delay. Twenty times he asked his body-servant if there was any

sight of the Americans, and finally commanded him to gallop to the town and ascertain the cause of the delay of the visitors. When he was told that the time set for the reception had not yet arrived, he sternly ordered his informant to keep silence.

The negro servants gathered in knots and discussed the strange behavior of the governor. In Bermuda, long contact with English officers and soldiers has given the negroes the characteristics of the English speech, and has obliterated the peculiar dialect that we are accustomed to associate with the American negroes. Thus the body-servant of the general conversed with a strong English accent with the servant of a London captain of the regiment stationed at the fort.

“Fancy Sir Richard getting into such a breeze,” remarked the body-servant with a rich, full intonation.

“’Igh old breeze he ’s in,” replied the captain’s man. “The governor’s getting ageable; he his n’t so ’arty as he use to be; his meritorious services deserve a return to Hingland.”

“Now that there is no chance of a war with America, the governor will probably return to

England and settle upon his estates. But here come the officers," and the two anglicized negroes resumed their posts of occupation.

It was noticed by the general's aids that he advanced to meet the American officers with strange trepidation and an unsteady step. He greeted the American admiral with his usual courtesy, but he seemed to bestow altogether too much attention upon two small boys who were in the midst of the brilliant group of officers. He had been supposed to dislike children, and there he was, holding the boys' hands with an affectionate manner.

"Certainly the general is gone daft," said the anglicized negro servant of Sir Richard, "to pay those chaps such attention. If the American admiral had the spirit of some of our English admirals, he would leave the governor's presence and order a broadside fired into the town."

The American admiral did not seem to be at all disturbed. Indeed, once during the reception he was closeted with the general and the two boys. There was evidently some mystery, — perhaps they were the sons of some high American dignitary. The wonder grew still

more when it was found that they remained after the departure of the American officers, and the governor-general was seen walking about his grounds with his hands resting most affectionately upon their shoulders. The mystery, however, was presently solved, for it was announced that they were the sons of the general, and the strange story of their life and adventures soon became known.

When the boys learned that they were brothers and not cousins, they gazed at each other for a moment, as if striving hard to realize their new relationship. Finally, Ned said: "I don't see, Hal, how we can be more to each other than we have been."

In a few days the *Electron* was made ready for sea, and the time came for the brothers to bid their old associates a long farewell. This was not easy, for they had become greatly attached to all on board the warship. The admiral gave them some good advice, and then said they needed it less than any boys he had ever met. He hoped they would become admirals in the British navy, and would sail on a good old-fashioned ship and not on a tea-kettle. He felt sure that they would agree with him

that it was better to be above the water than under it.

The boys, in taking leave of the kind officers of the *Electron*, were much troubled by the knowledge they possessed of all the secrets of the torpedo; now they were going to be British subjects, they might carry all their information to a foreign power. They finally concluded to confide their thoughts on this subject to Old George, the inventor. The latter heard them express their scruples with a strange glistening in his eyes.

“You must give the old mother country all the help you can, boys,” said he. “She needs it. I have invented another torpedo boat, which is far better than the one you are acquainted with. All the motions in my new electrical apparatus will be positive, and there will be no back-lash. Your doubts do you infinite honor.”

They left the old inventor with their minds much relieved. In the name of their father, the general, they invited Mr. Greatthings to visit them at their estate in Devonshire, England.

On the night before the *Electron* sailed,

there was a great illumination of the ironclads. Rows of electric lamps were strung from mast to mast of the *Electron*, and there was a beading of them also from stern to stern. The English frigates in the harbor burned red lights and let off rockets, and the American ships responded in kind. The martial bands vied with each other, — the American band playing the national airs of England, and the English one the national airs of America. It was a beautiful sight, and the thought came to every one, — “How much better this is than war, so terrible with its cannonading and burning of towns, its slaughter of men, and heart-rending sorrow of women.”

Henry and Edward, on the following morning, saw the *Electron* steam out of the harbor and along the low shores of Bermuda, leaving a long trail of smoke behind her.

“I can never fight an American,” said Edward, “for they have been too good to us.”

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